DEVELOPMENT AND OPERATIONS OF THE ASTROPHYSICS DATA SYSTEM

IN-90
417284

NASA Grant NCC5-189

Annual Report

For the Period 1 January 1998 through 31 December 1998

Principal Investigator
Dr. Stephen S. Murray

November 1998

Prepared for:

National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771

Smithsonian Institution
Astrophysical Observatory
Cambridge, Massachusetts 02138

The Smithsonian Astrophysical Observatory
is a member of the
Harvard-Smithsonian Center for Astrophysics

The NASA Technical Officer for this grant is Jim Thieman, National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, MD 20771

12 DECEMBER 1997

SUMMARY

Preparations for the AAS meeting in January are progressing. We will have a talk, a poster, and a demonstration. We organized a meeting during the AAS conference to discuss bibliographic codes in order to make sure the different information providers can inter-operate.

Our new server should be on-line for the AAS meeting. This will improve the search speed considerably.

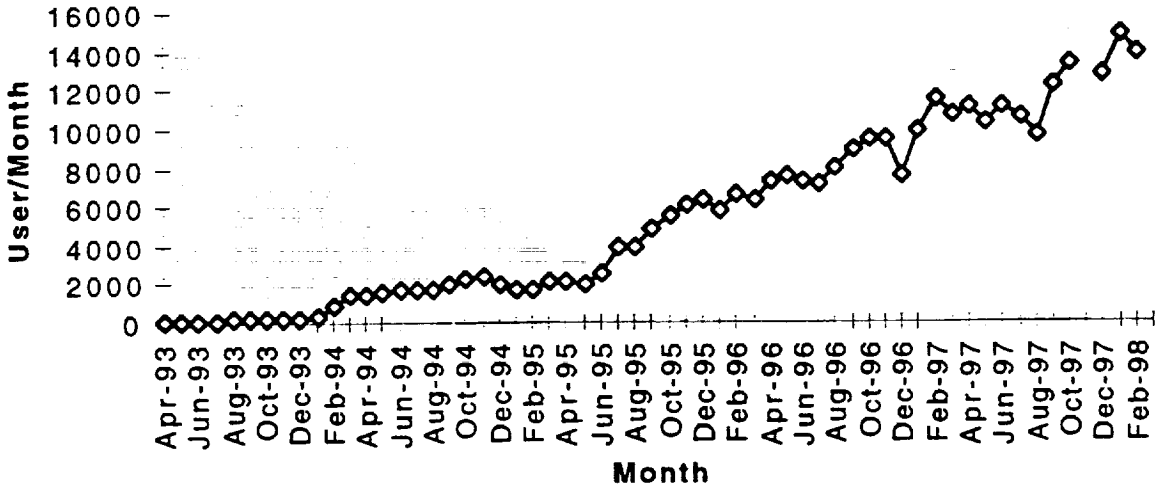
SAO

ASTROPHYSICS DATA SYSTEM

Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 March, 1998

Distinct Users, Abstract Service



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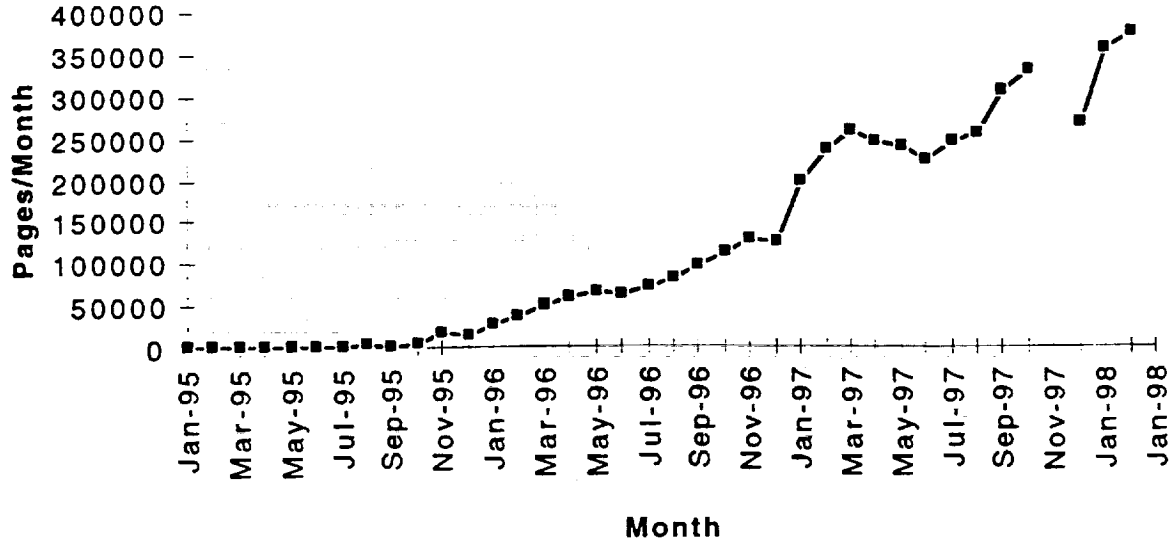
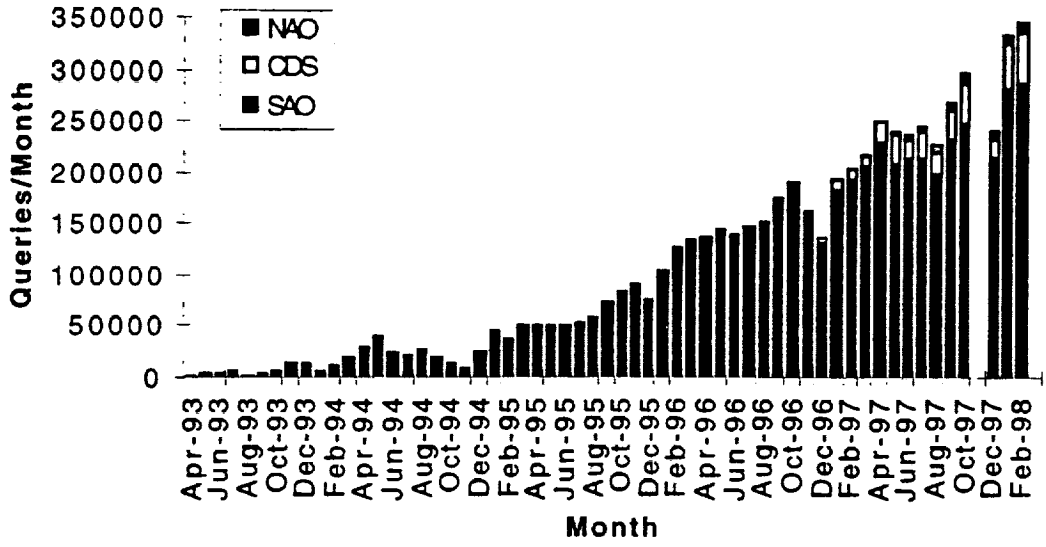


SAO ASTROPHYSICS DATA SYSTEM

Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 March, 1998

Number of Abstract Queries



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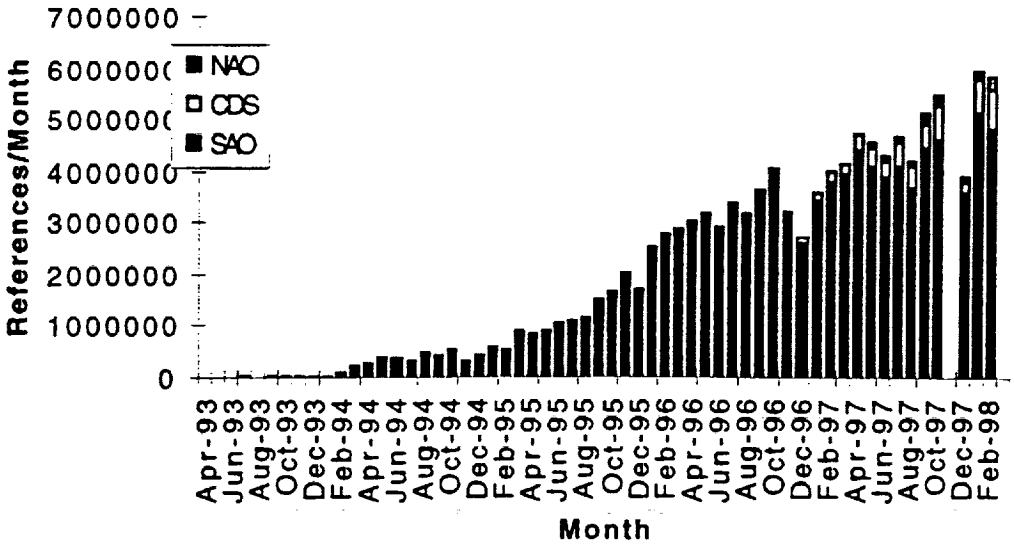
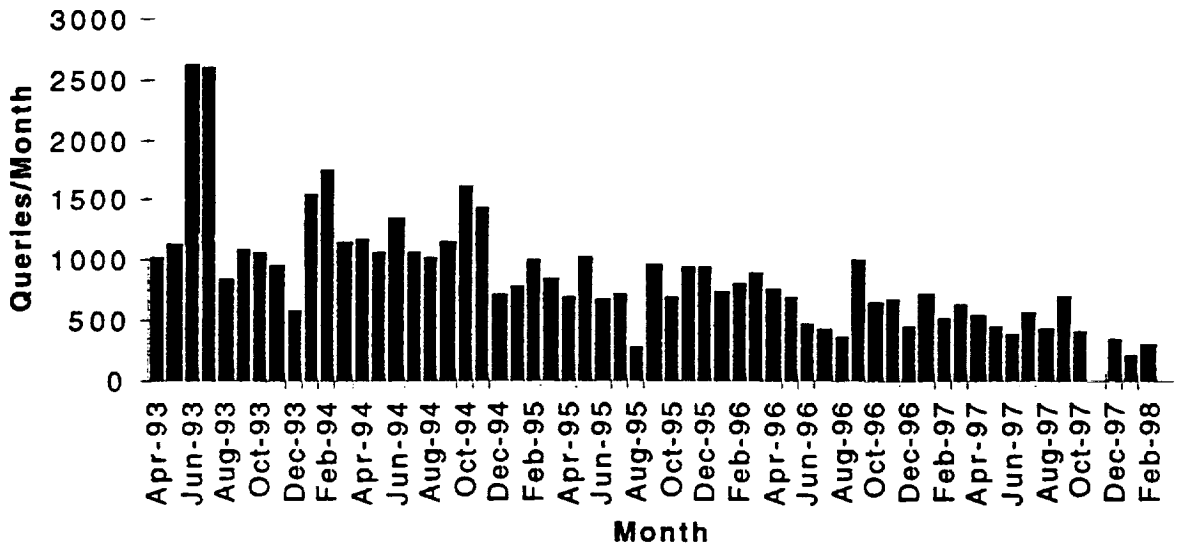


SAO ASTROPHYSICS DATA SYSTEM

Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 March, 1998

Number of SQL Server Queries



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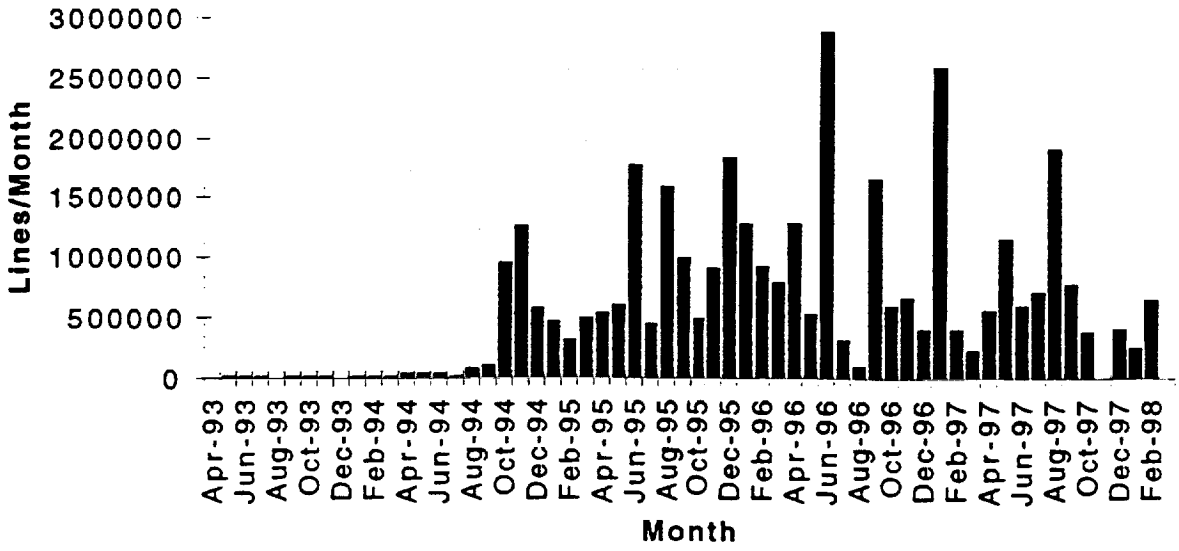


SAO ASTROPHYSICS DATA SYSTEM

Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 January 1998

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Continued regular updates of abstracts in the database, both at SAO and at the mirror sites at CDS and NAO.
- Compiled a list of all author affiliations and their bibliographic codes for references since 1992 for analysis by Daniel Egret.
- Tested new Z39.50 server on ADS server.
- Added several hundred AJ abstracts to existing records from 1997.
- Added several hundred abstracts from the Korean Astronomical Society.
- Added several hundred new conference proceeding references typed in by P. Boon.
- Continued process of eliminating duplicate entries in the database.
- Began adding reference links for A&AS and PASJ.
- Created a new database for Miscellaneous abstracts so that we could include the full table of contents from Science Articles. Also added astronomy ones to the astronomy database.
- Identified missing test files in the database and recreated them.

Article Service:

- Processed and placed online 15 years of the Bulletin of the Astronomical Society of India, including creation of TOCs for missing references.
- Received CD archive copies of all scans from Merril Corp. and processed all missing pages available on them.

Miscellaneous:

- Responded to user comments about the Abstract and Article Services.
- Provided user support to users in the US and abroad.
- Continued work on ADS papers to be submitted to PASP.
- Attended the Information Retrieval workshop in Londonderry, Northern Ireland, organized by CCMA (Converging Computing Methodologies in Astronomy) scientific network. Presented an invited talk on the architecture of the ADS bibliographic databases.
- Performed system backups.
- Arranged networking information, handouts, and other logistics for upcoming AAS meeting.

1 JANUARY 1998

SUMMARY

The AAS meeting was very well attended and the AAS demonstration was visited extensively. The talk about the ADS and its plans for the historical literature was well received. The meeting about bibcodes, organized by the ADS, was well received. We made some progress in unifying our approach to generating bibcodes.

The new server came on-line just before the AAS meeting. The new server now runs the abstract service, the older server handles the article service. This should greatly improve search speed and article throughput.

A discussion with the executive director of the AGU, Fred Spilhaus, brought an agreement that the AGU will provide us with their abstracts.

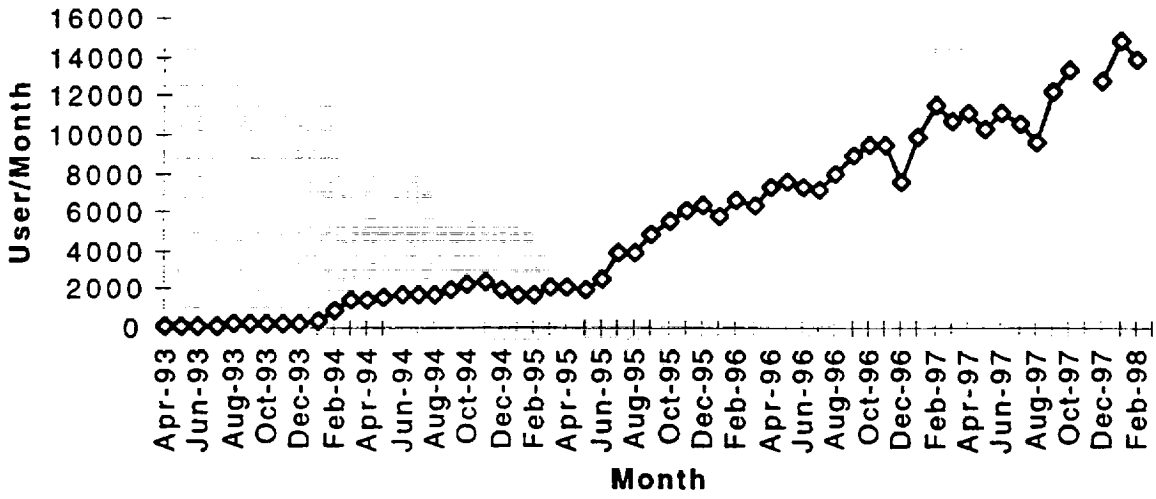
We started preparations for the LPSC meeting in Houston in March. We will have a demonstration of the ADS at the LPSC. We prepared Meteroitics back to volume 1 for scanning. All of Meteritics should be on-line for the LPSC.

SAO ASTROPHYSICS DATA SYSTEM

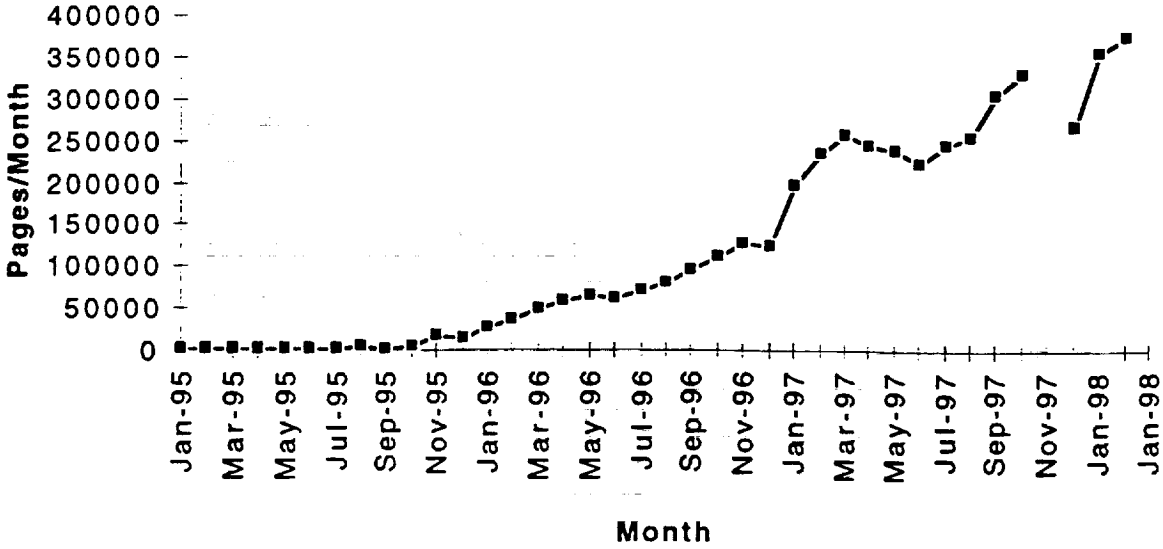
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 March, 1998

Distinct Users, Abstract Service



Article Pages Retrieved



SAO

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Achievement:_____G. Eichhorn (SAO)

Status as of: 1 March, 1998

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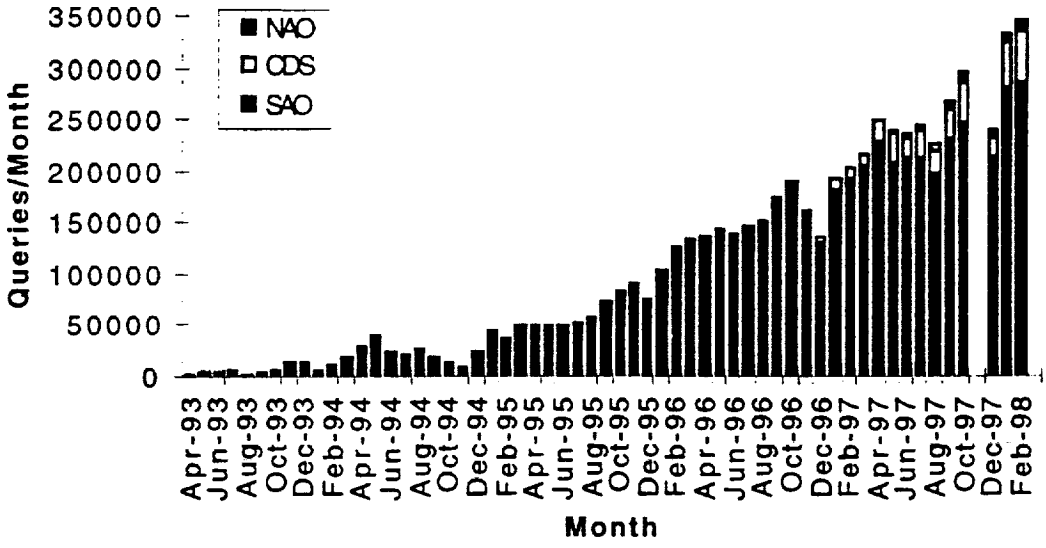

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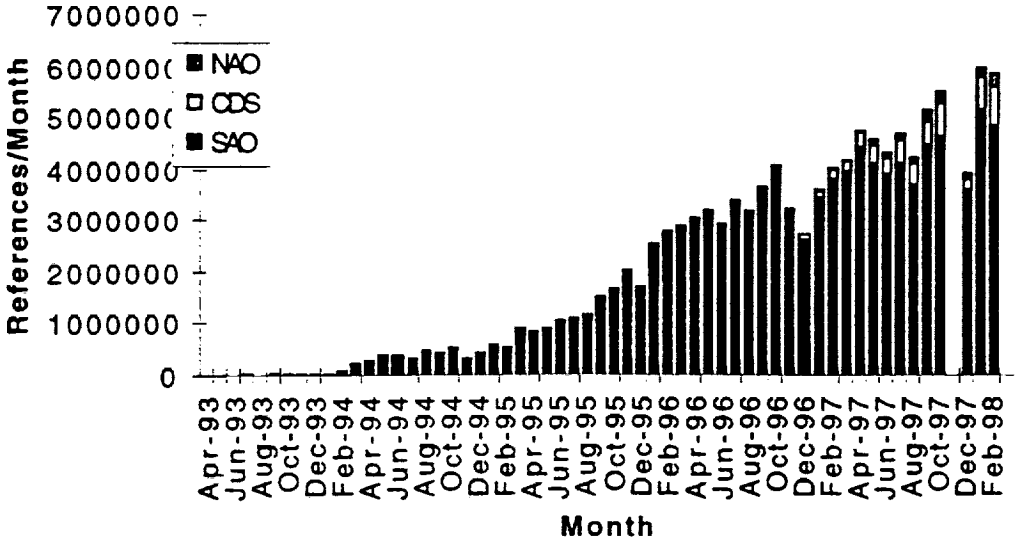

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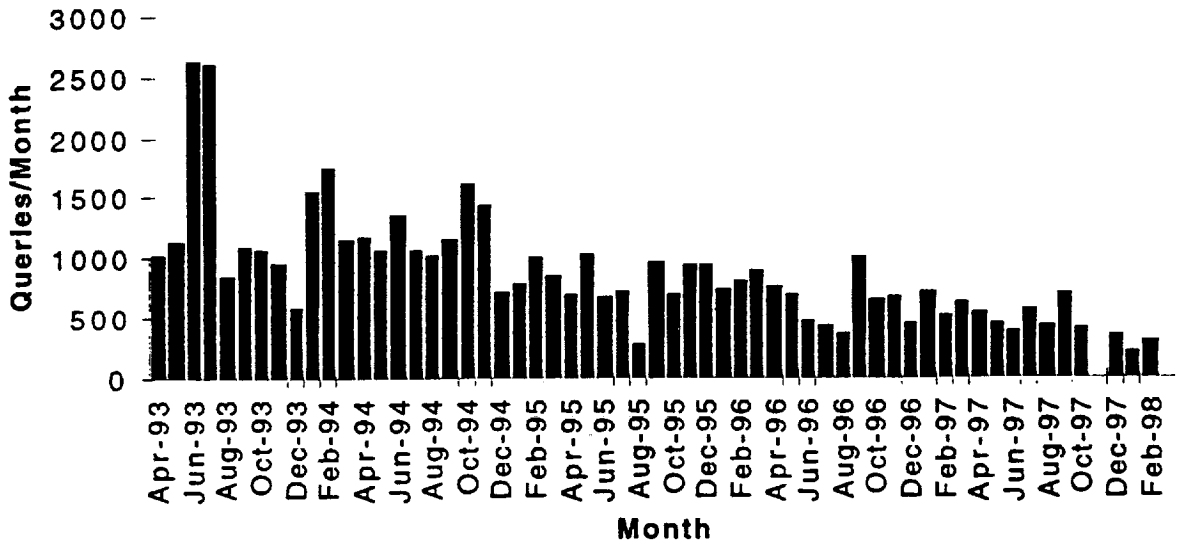
Status as of: 1 March, 1998

Number of SQL Server Queries



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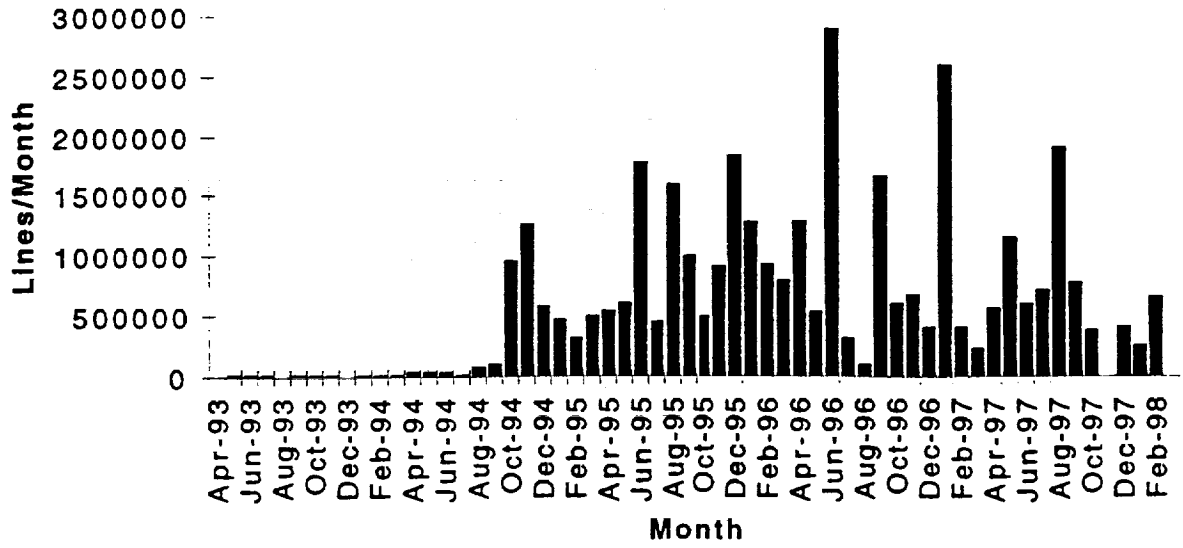

Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 February 1998

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Continued regular updates of abstracts in the database, both at SAO and at the mirror sites at CDS and NAO.
- Automated the creation of online links to the new electronic versions of AJ and PASP.
- Updated indexing and searching software to use the same parsing code in order to guarantee consistent results.
- Updated translation rules and synonym lists used in indexing of the astronomy databases.
- Added over 1000 AAS abstracts to the database, and made them available at the start of the AAS meeting.
- Corrected journal discrepancies between ADS and SIMBAD as identified by Soizick.
- Added links to online version of Earth and Planetary Science Letters.
- Added several hundred books from Springer's catalog.
- Added references from early ApJ and AN volumes.
- Added new OSA, SPIE, Kluwer, and Elsevier data to instrumentation database.

Article Service:

- Processed and placed online recent volumes of PASA (publications of the Astronomical Society of Australia) and 3 years of Metic (Meteoritics and Planetary Sciences).

Miscellaneous:

- Responded to user comments about the Abstract and Article Services.
- Provided user support to users in the US and abroad.
- Continued work on ADS papers to be submitted to PASP.
- Attended the 191st annual AAS meeting to demonstrate the Abstract Service and its new features.
- Attended and spoke at meeting on bibliographic codes at AAS meeting. Presented ADS requirements for bibliographic codes and policies for their creation.
- Setup new email list for those interested in discussion of bibliographic code issues.
- Setup new server for use as the ADS abstract server and configured demonstrations at the annual AAS meeting to make use of it.

2 FEBRUARY 1998

SUMMARY

Preparations for the LPSC meeting in Houston were completed. Our demonstration will be at the meeting location this year, not in the LPI Library as in previous years. This should give us much better exposure.

SAO ASTROPHYSICS DATA SYSTEM

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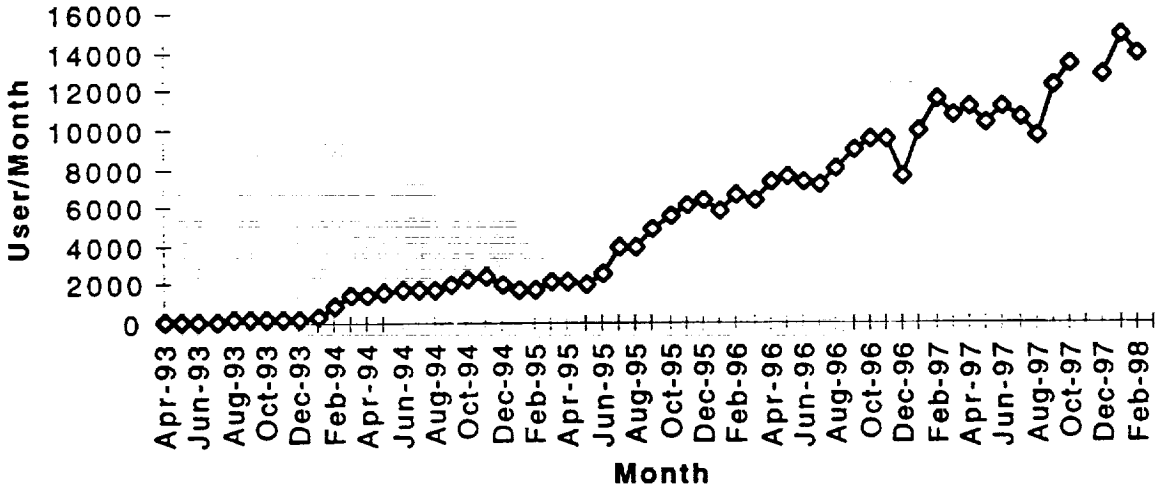
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 March, 1998

Distinct Users, Abstract Service



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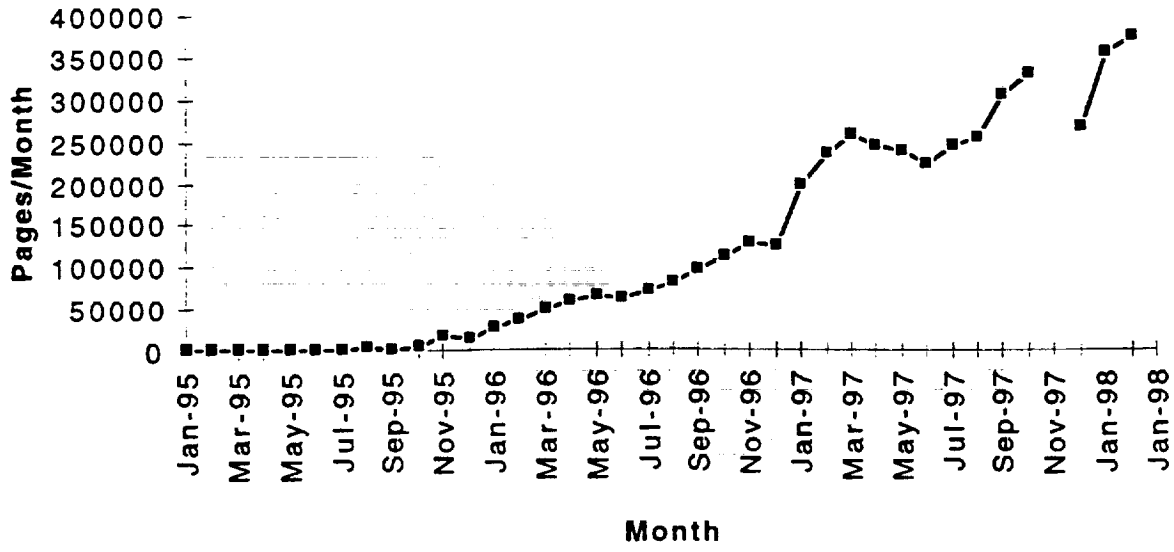

SAO ASTROPHYSICS DATA SYSTEM

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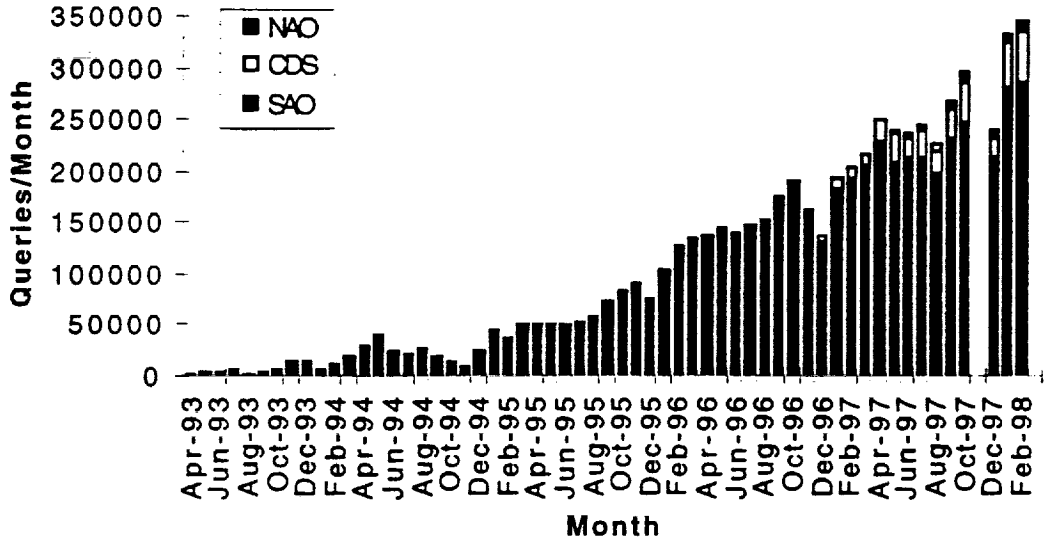
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 March, 1998

Number of Abstract Queries



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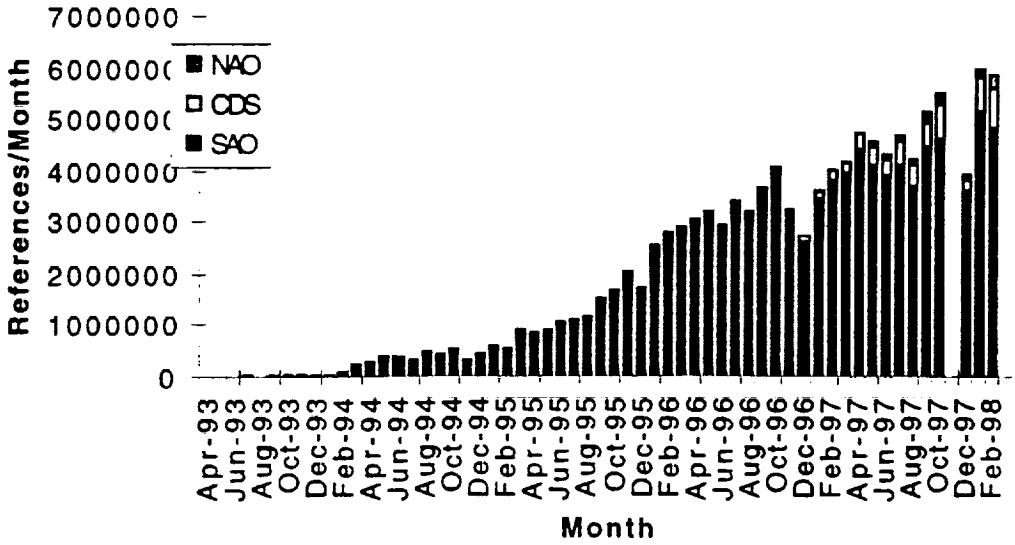

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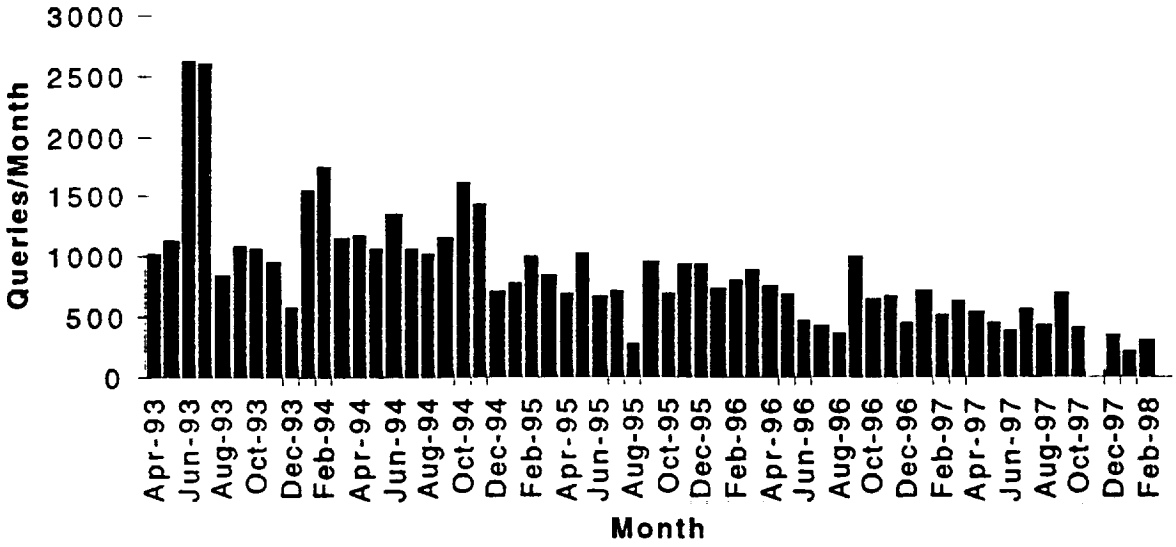
Status as of: 1 March, 1998

Number of SQL Server Queries



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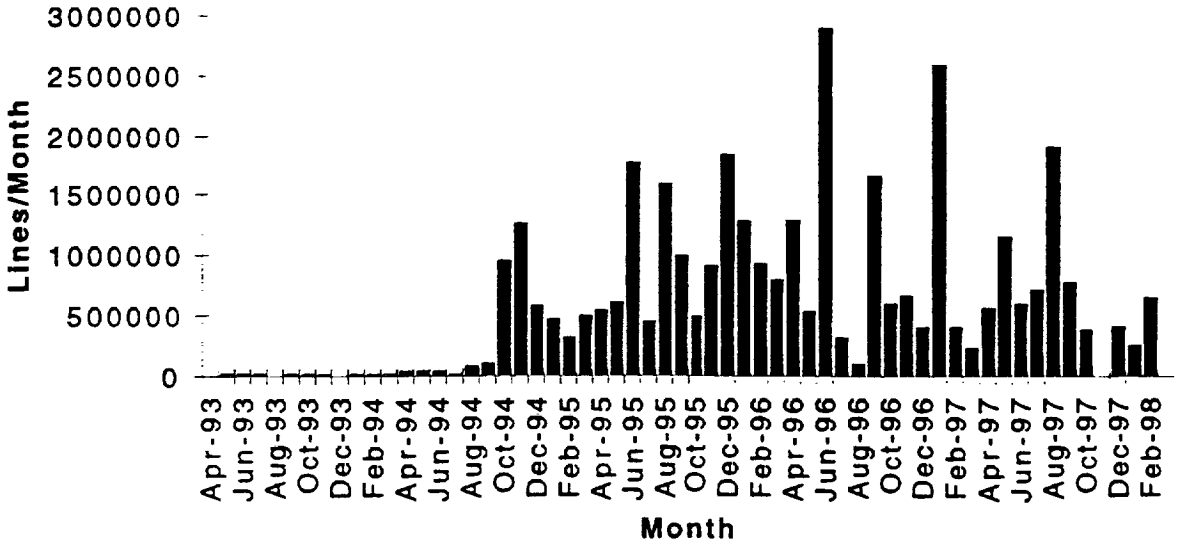

Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 March 1998

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Continued regular updates of abstracts in the database, both at SAO and at the mirror sites at CDS and NAO.
- Coordinated creation of consistent bibcodes for IAU Circulars between SIMBAD, NED and CBAT.
- Wrote utility script that performs spell checking and automated substitution of words in abstract text files.
- Updated indexing script and maintenance and mirroring software to use configuration files from now on, allowing more flexibility in the creation and management of new databases and mirror sites.
- Assisted in debugging and fixing the SPIE InCite online service that makes use of the ADS services.
- Eliminated several thousand duplicate Knudsen conference proceedings from the database by matching them with existing RECON entries.

Miscellaneous:

- Responded to user comments about the Abstract and Article Services.
- Provided user support to users in the US and abroad.
- Continued work on ADS papers to be submitted to PASP.
- Switched most of the ADS bibliographic services to new server. Old server will continue to provide access to article scans.
- Sent 4 more DLT tapes to Japanese mirror site, bringing the article mirror up to date with the ADS master site.

3 MARCH 1998

SUMMARY

The LPSC conference in Houston was a significant success. We have reached many scientists, including many senior scientists that had not heard about us and who were very enthusiastic about this service. With this we should reach a significant part of the planetary sciences community.

The articles are now completely mirrored in Japan. This will provide us with good redundancy and an important backup. The CDS in France is looking into obtaining funding to also mirror the articles in Strasbourg.

SAO ASTROPHYSICS DATA SYSTEM

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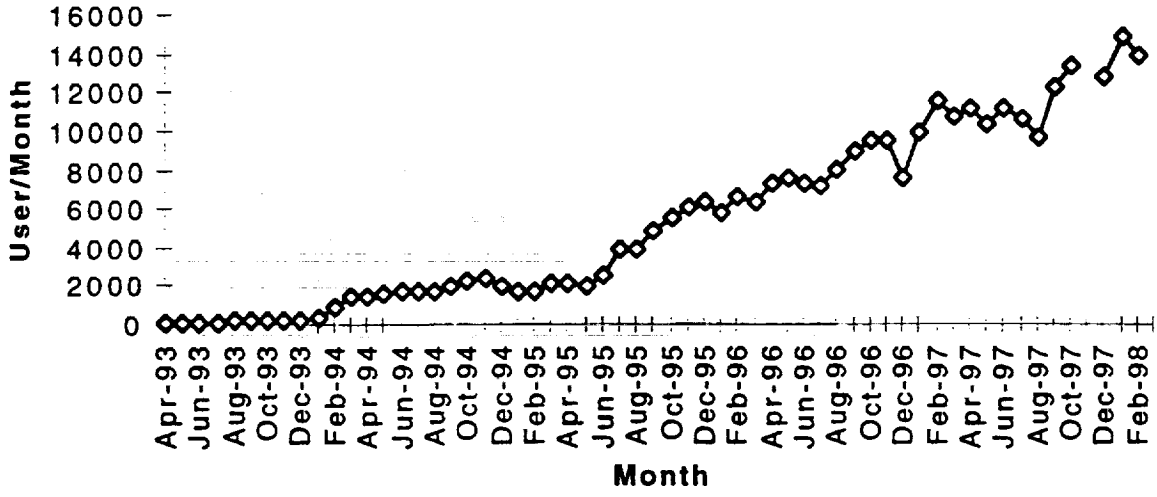
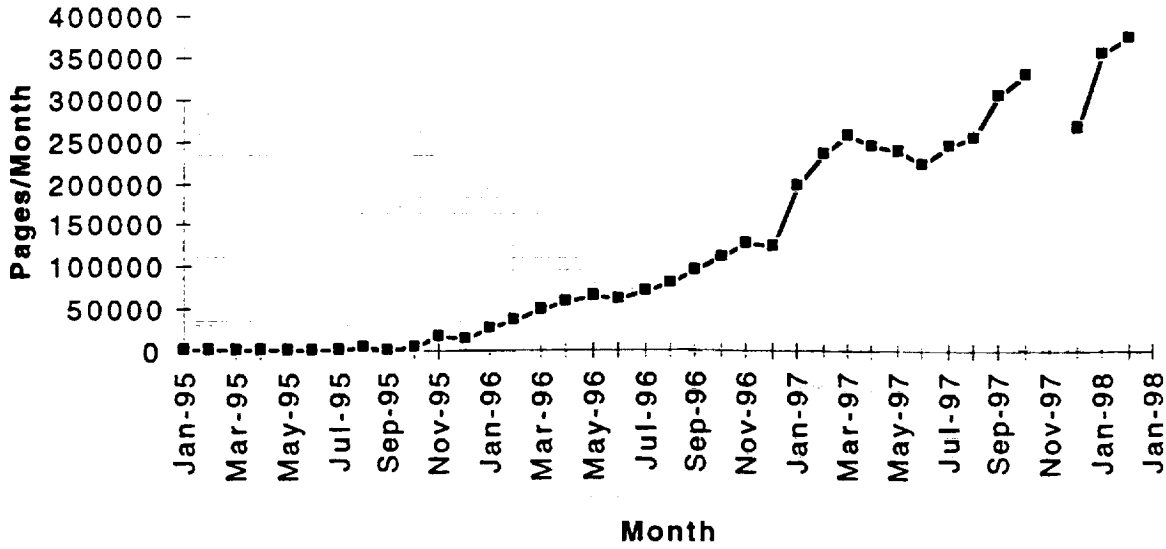
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 March, 1998

Distinct Users, Abstract Service



Article Pages Retrieved



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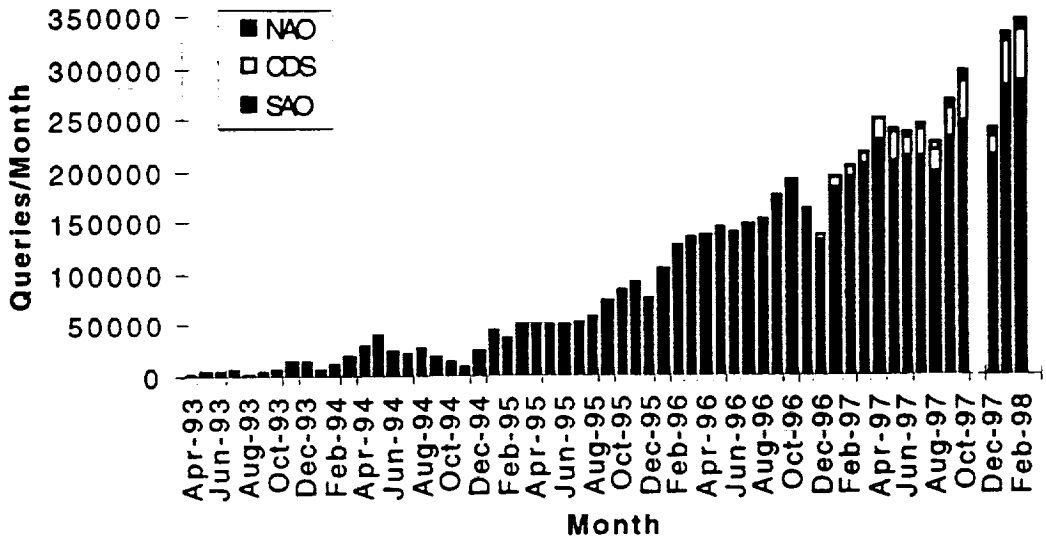
Status as of: 1 March, 1998

Number of Abstract Queries



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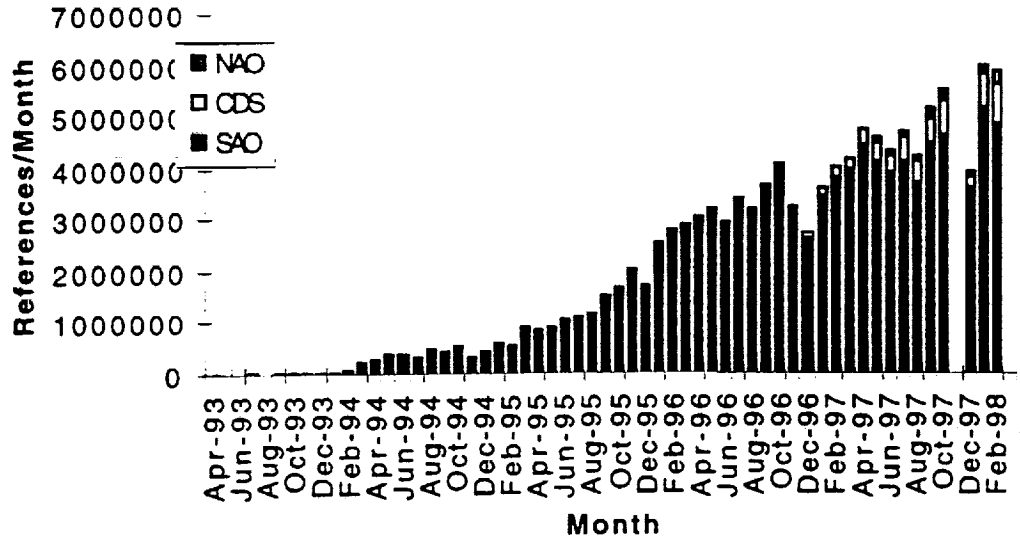

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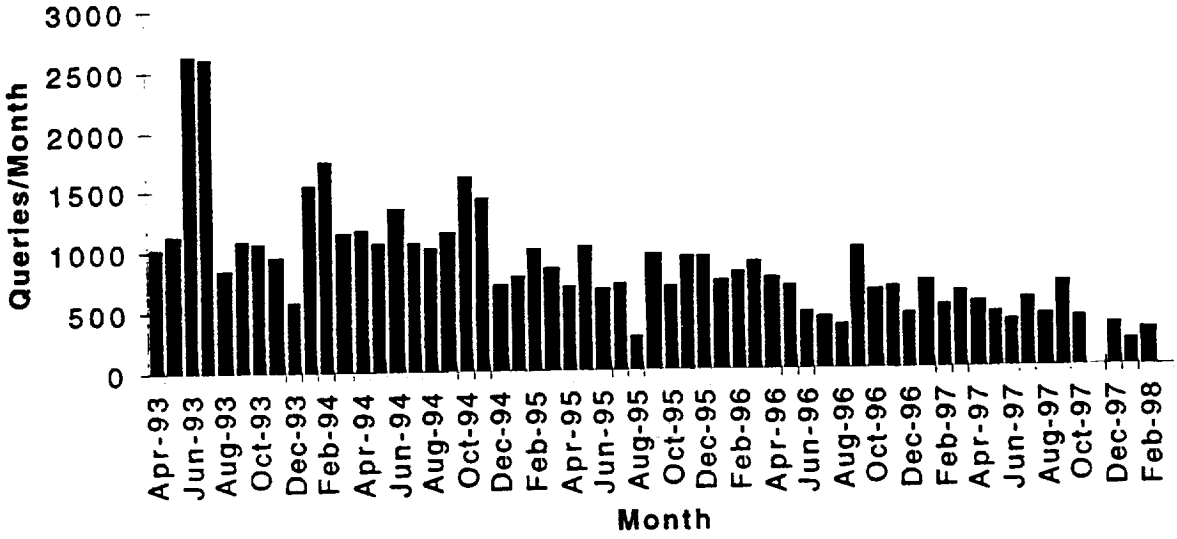
Status as of: 1 March, 1998

Number of SQL Server Queries



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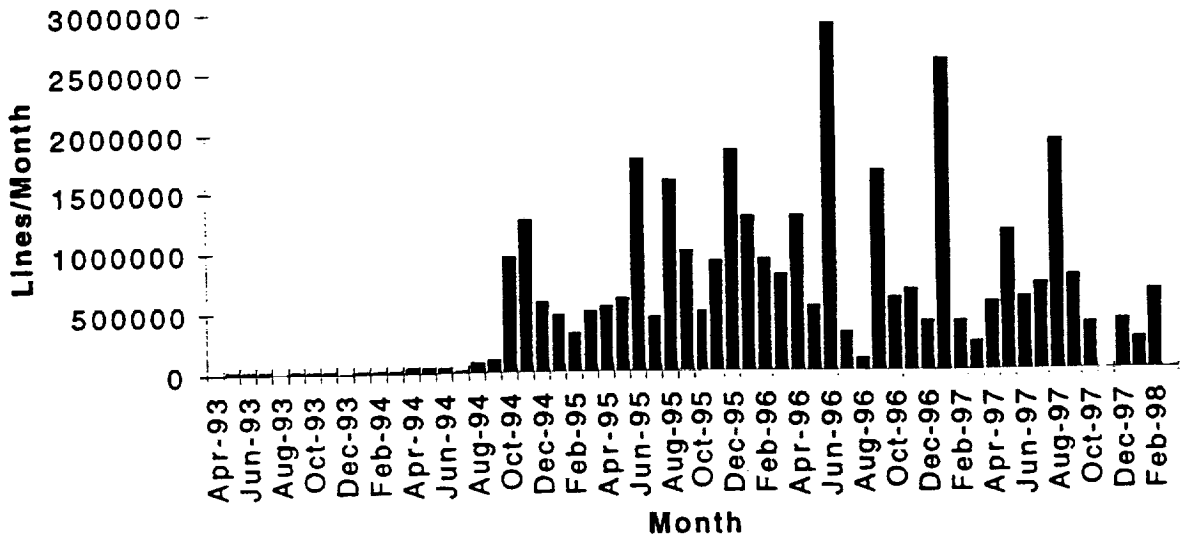


SAO **ASTROPHYSICS DATA SYSTEM**

Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 April 1998

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Continued regular updates of abstracts in the database, both at SAO and at the mirror sites at CDS and NAO.
- Finished eliminating thousands of duplicate Knudsen conference proceedings from the database by matching them with existing RECON entries.

Article Service:

- Formatted and processed references for the 29th LPSC meeting, and the Meeting of the Meteoritical Society.
- Formatted and processed scanned images for the book *Basaltic Volcanism from the Terrestrial Planet*, and made it available online via its own top page and table of contents.
- Processed volumes 1-32 (1953-1997) of Meteoritics and Planetary Science.

Miscellaneous:

- Responded to user comments about the Abstract and Article Services.
- Provided user support to users in the US and abroad.
- Continued work on ADS papers to be submitted to PASP.
- Attended the 29th Lunar and Planetary Science Conference, in Houston and gave demonstrations of the ADS services.
- Submitted an announcement about ADS resources available to the planetary sciences to the Lunar and Planetary Information Bulletin.

4 APRIL 1998

SUMMARY

The ADS was represented at the LISA III meeting with two poster papers and participation in a podium discussion. The librarians were supportive of the ADS effort and seemed to be willing to cooperate with the ADS. Many talks referred to the ADS and it was clear that they realize the importance of this system.

We received scans from the Astronomical Society of Korea's journal and put them on-line. We should receive their abstracts now regularly.

Scanning of journals is proceeding well. We receive about 5,000 to 10,000 pages per week from our scanning company.

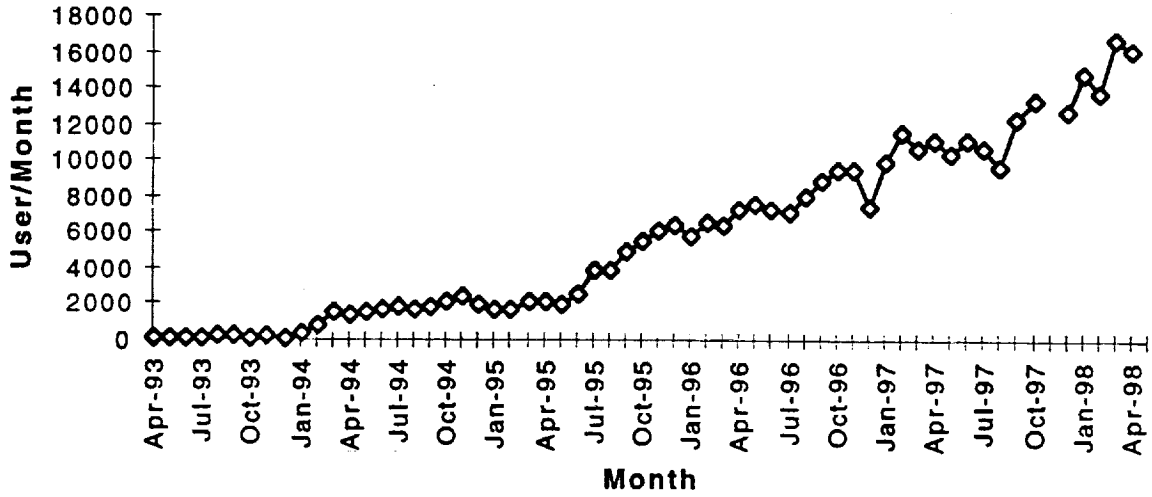
SAO

ASTROPHYSICS DATA SYSTEM

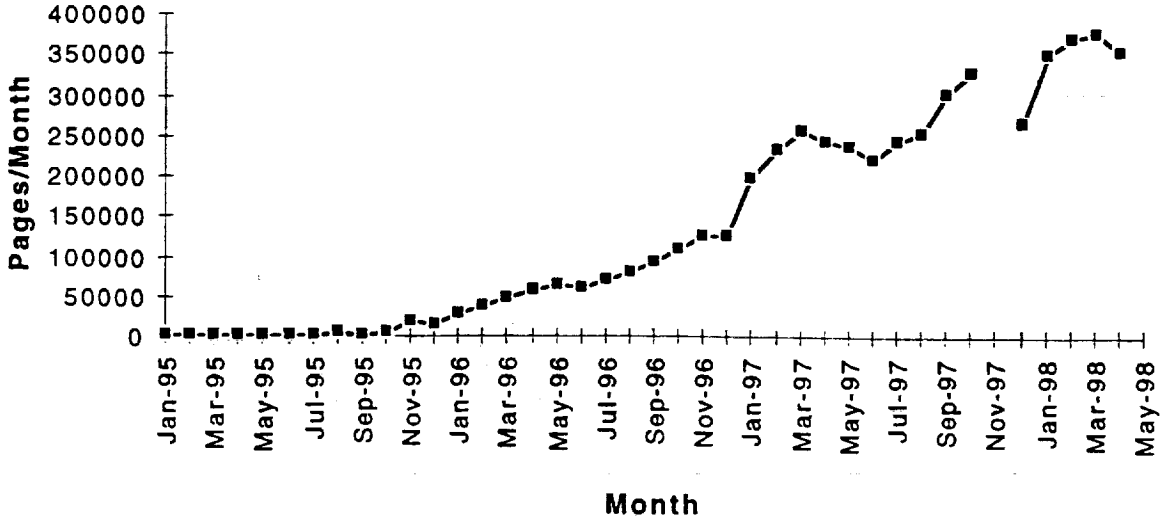
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 May, 1998

Distinct Users, Abstract Service



Article Pages Retrieved



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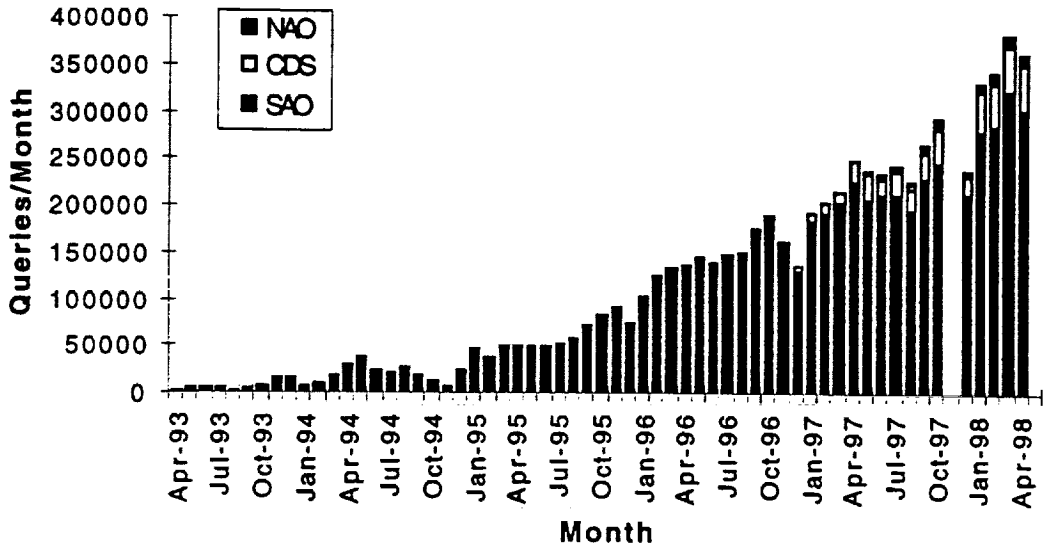
Status as of: 1 May, 1998

Number of Abstract Queries



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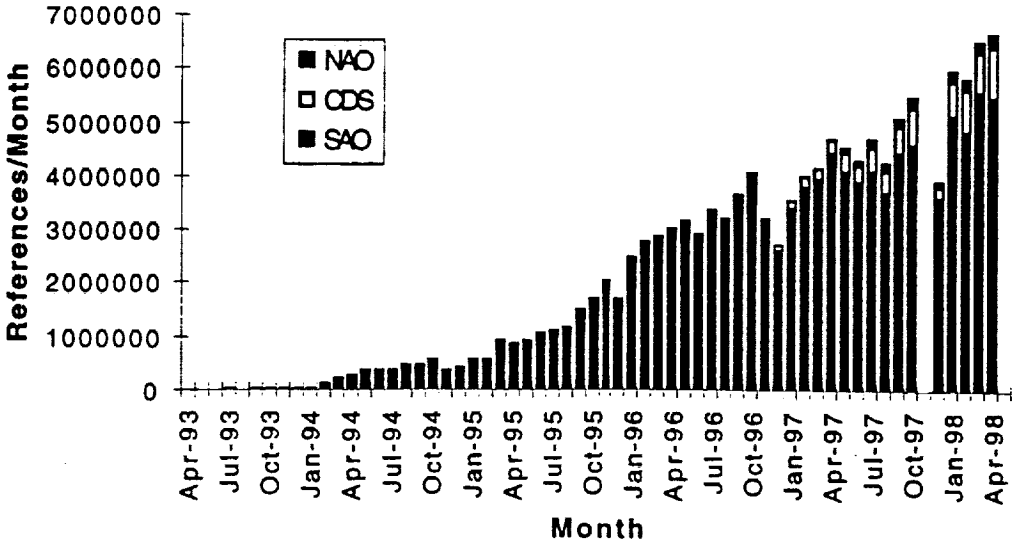

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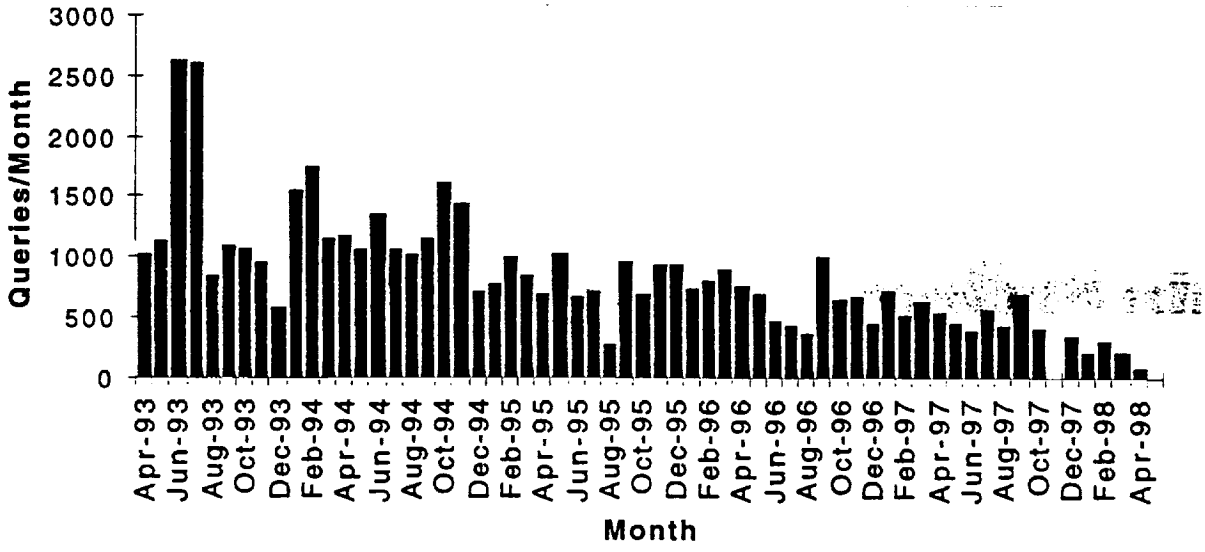
Number of SQL Server Queries



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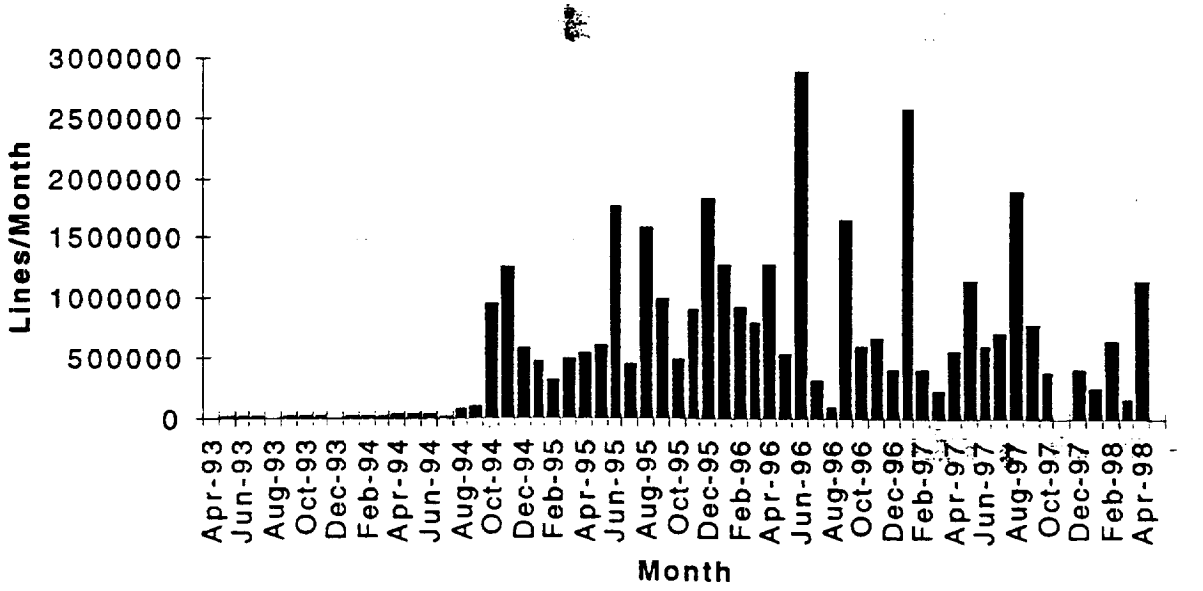


SAO ASTROPHYSICS DATA SYSTEM

Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 May 1998

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Continued regular updates of abstracts in the database, both at SAO and at the mirror sites at CDS and NAO.
- Modified abstract indexing routines to allow handling of quick updates.
- Assigned accurate bibliographic codes to almost 9000 Russian and Chinese translation journal entries (AcASn, AcApS, Afz, Ap) so that the bibcodes used the correct volume and page and the correct journal abbreviation.
- Wrote routines to parse new SGML header data for AJ and PASP.
- Added abstracts for Communications from the Konkoly Observatory back to volume 1.
- Added more German words to the synonym list to improve foreign language searching.

Article Service:

- Restructured the online storage of ADS articles to provide better maintenance and data integrity.
- Discussed the possibility of scanning microfilms and microfiches with our scanning company and provided samples for a feasibility study.
- Placed online volumes 1-29 (1968-1996) of the Journal of the Korean Astronomical Society.

Miscellaneous:

- Responded to user comments about the Abstract and Article Services.
- Provided user support to users in the US and abroad.
- Continued work on ADS papers to be submitted to PASP.
- Upgraded HTTP and FTP software for the main ADS servers to their latest stable versions.
- Diagnosed problems with the SIMBAD clone server and worked with CDS staff to solve the outstanding issues.
- Drew specifications and made suggestions for hardware needed to support a new staff member as well as future expansion and storage needs for the ADS article and abstract servers.

5 MAY 1998

SUMMARY

We are working with Springer Werlag to have a mirror of the scans of *Astronomy & Astrophysics* available at their site.

Discussions with the CDS showed that the collaboration between the ADS and the CDS is working well. The ADS mirror in France and the SIMBAD mirror at SAO are providing valuable improvements to both our user communities.

A new set of data links, to a server with data for Planetary Nebulae in Austria, was installed in the ADS.

Astronomy & Astrophysics is completely scanned and on-line. We started scanning the *A&A Supplements*.

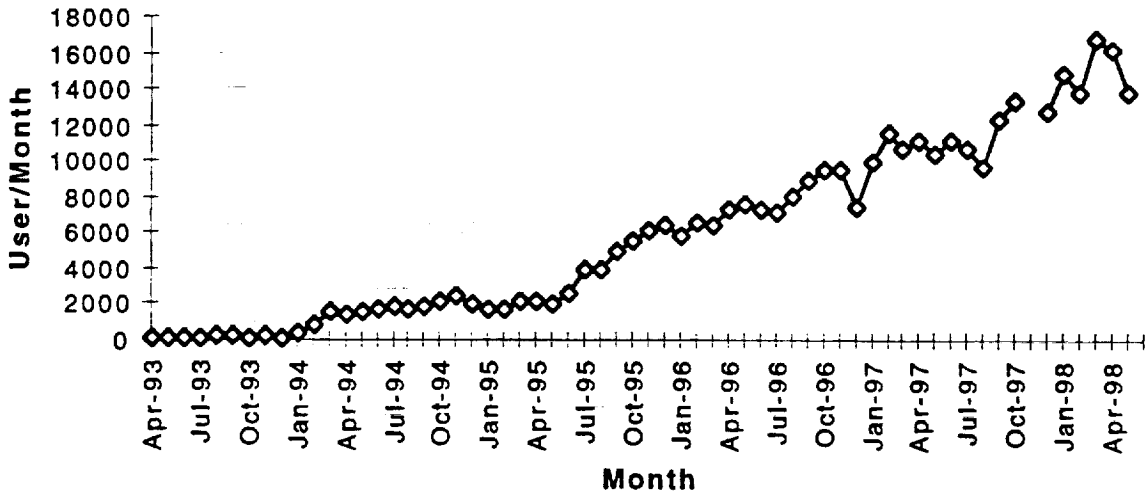
Contacts were initiated with the Astronomy Department at the University in Santiago, Chile about having an ADS mirror site there.

SAO ASTROPHYSICS DATA SYSTEM

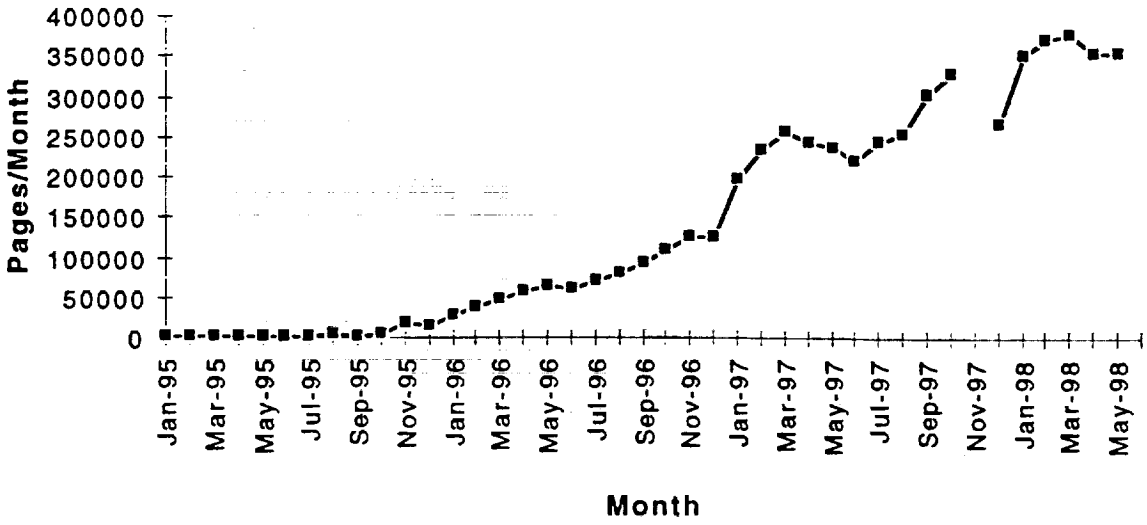
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 June, 1998

Distinct Users, Abstract Service



Article Pages Retrieved

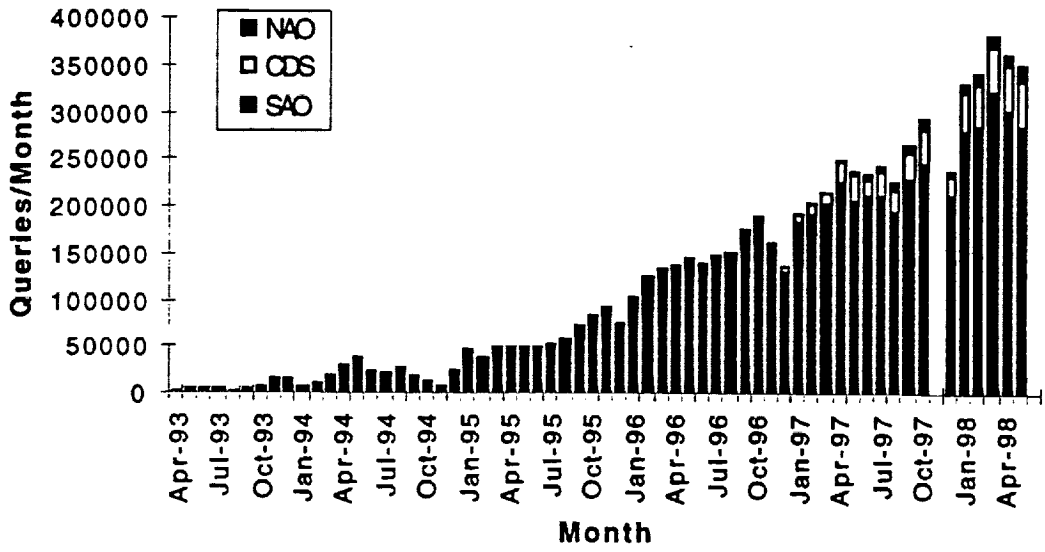


SAO ASTROPHYSICS DATA SYSTEM

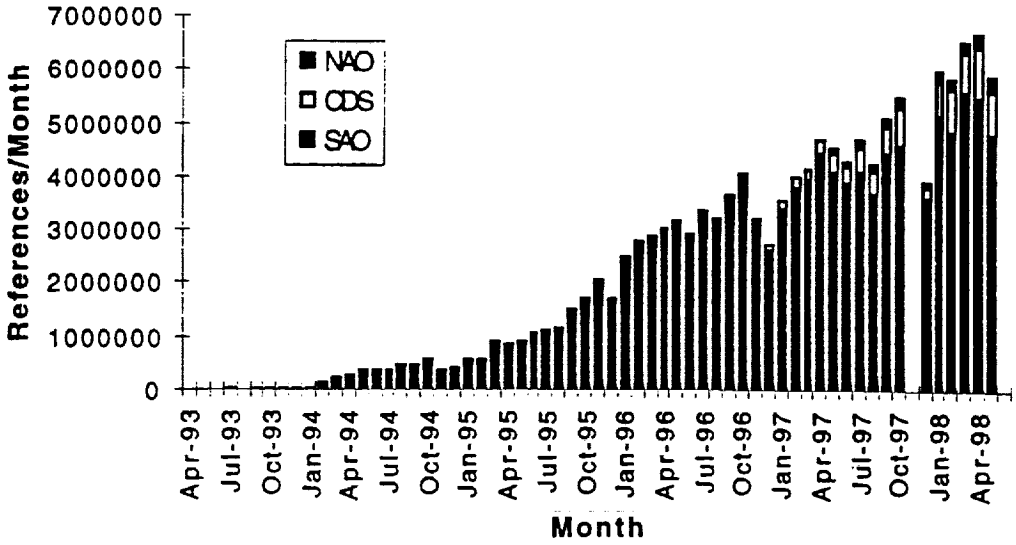
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 June, 1998

Number of Abstract Queries



Number of Retrieved References

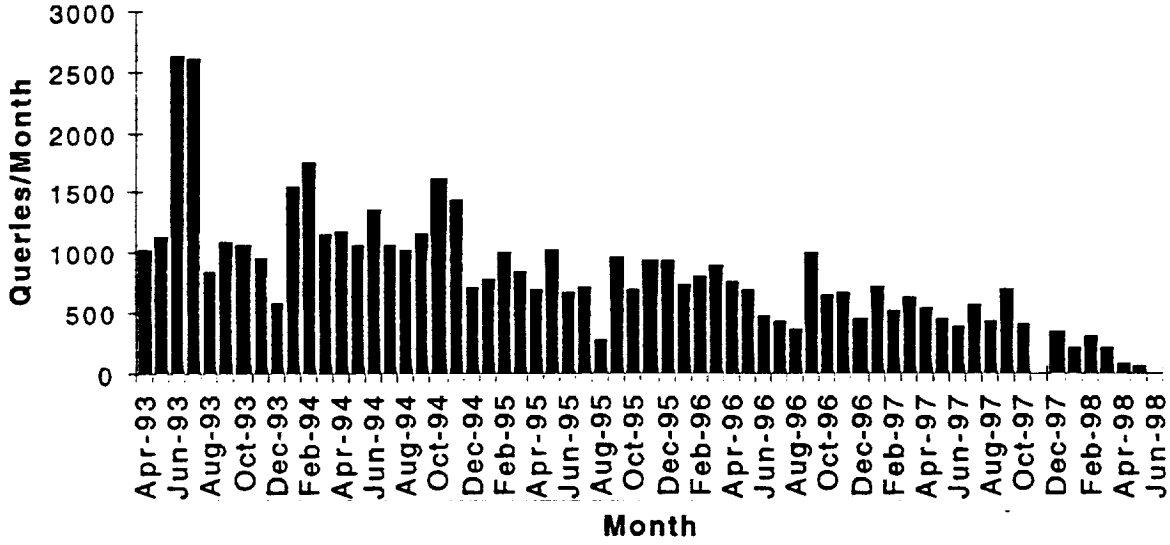


SAO ASTROPHYSICS DATA SYSTEM

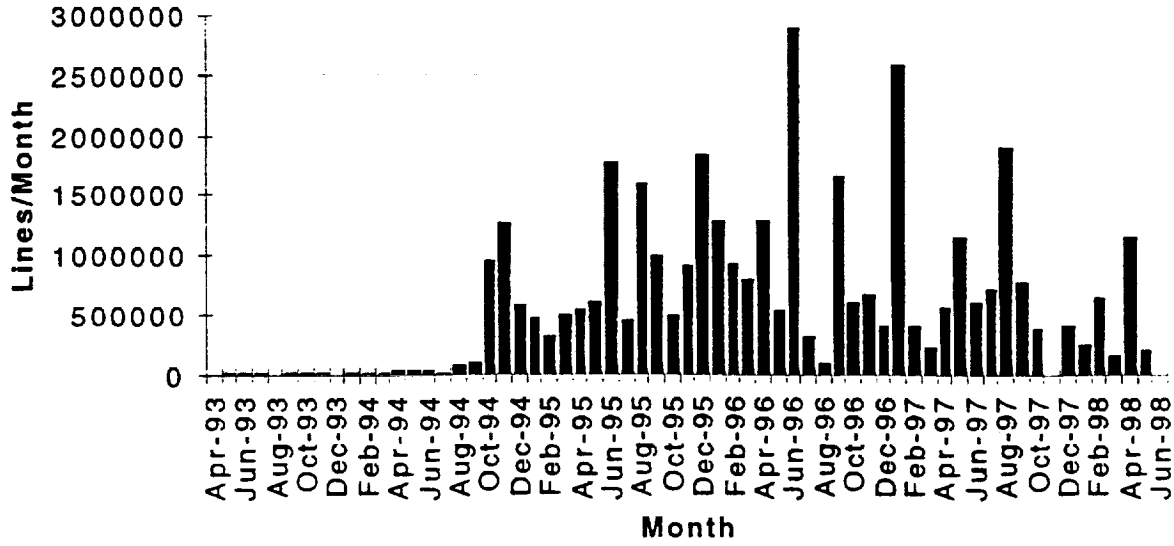
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 June, 1998

Number of SQL Server Queries



Number of Retrieved Catalog Lines



Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 June 1998

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Continued regular updates of abstracts in the database, both at SAO and at the mirror sites at CDS and NAO.
- Modified abstract indexing routines to allow handling of quick updates.
- Identified foreign language abstracts and created foreign language tag in text files for those abstracts to automate translation of abstracts through Altavista translation service.
- Created canonical list of journal and conference title abbreviations to eliminate duplicates in the system and to enable better reference parsing when sent references for converting into bibliographic codes.

Article Service:

- Reworked article service software to increase source code portability in order to allow compilation under different operating systems.
- Processed A&A v. 1-182 (1969-1987) and A&A supplements v. 72-110 (1988-1995).
- Collected and delivered to the scanning contractor ApJ Supplements from 1978 to 1996 and PASJ from 1949 to 1974.

Miscellaneous:

- Responded to user comments about the Abstract and Article Services.
- Provided user support to users in the US and abroad.
- Continued work on ADS papers to be submitted to PASP.
- Assisted Systems Group in moving ADS data off of failing disks on our old server *mccoy*.
- Wrote a paper to appear in the conference proceedings of the LISA III meeting.
- Researched and ordered scanning hardware and software to be used by new part-time librarian hire.
- Interviewed candidates and hired summer student to help with various ADS library and scanning tasks.
- Provided assistance to MNRAS enabling them to display future online capabilities at a meeting of the Royal Astronomical Society.

6 JUNE 1998

SUMMARY

The ADS was represented at the AAS meeting in San Diego with a poster paper. The vast majority of the visitors of the poster at the AAS meeting knew about the ADS.

Scanning of the *A&A Supplements* back to 1988 was completed. The AAS Photo Bulletin was scanned and put on-line. Scanning of the ASP Conference series was started. We have permission to put these volumes on-line five years after publication.

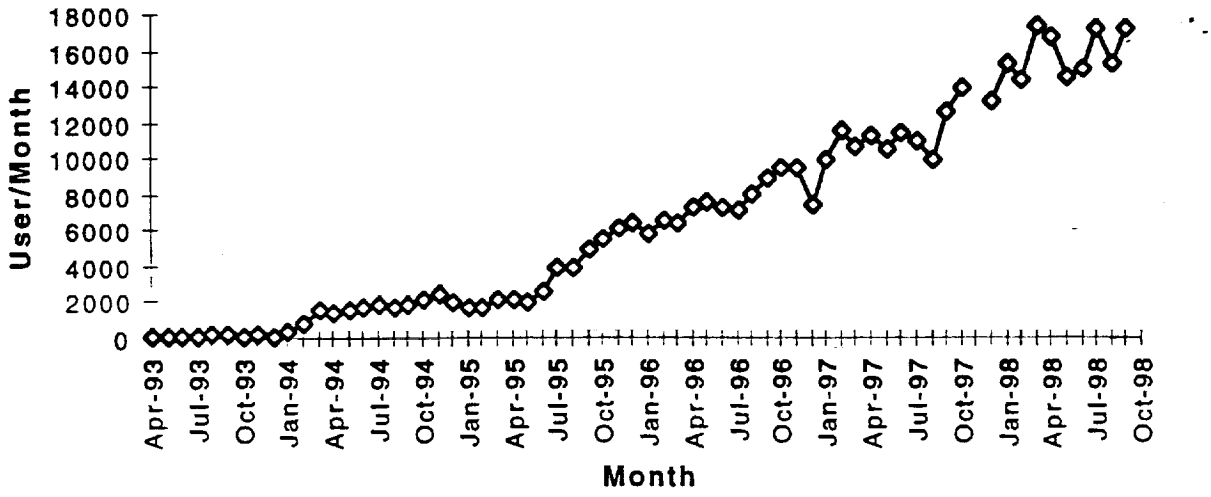
A summer student is working on correlating scanned plates in the *ApJ* with their articles. Currently the plates are stored separately since we don't know which plate belongs to which article. Once this work is done the plates will be accessible together with the articles to which they belong.

SAO ASTROPHYSICS DATA SYSTEM

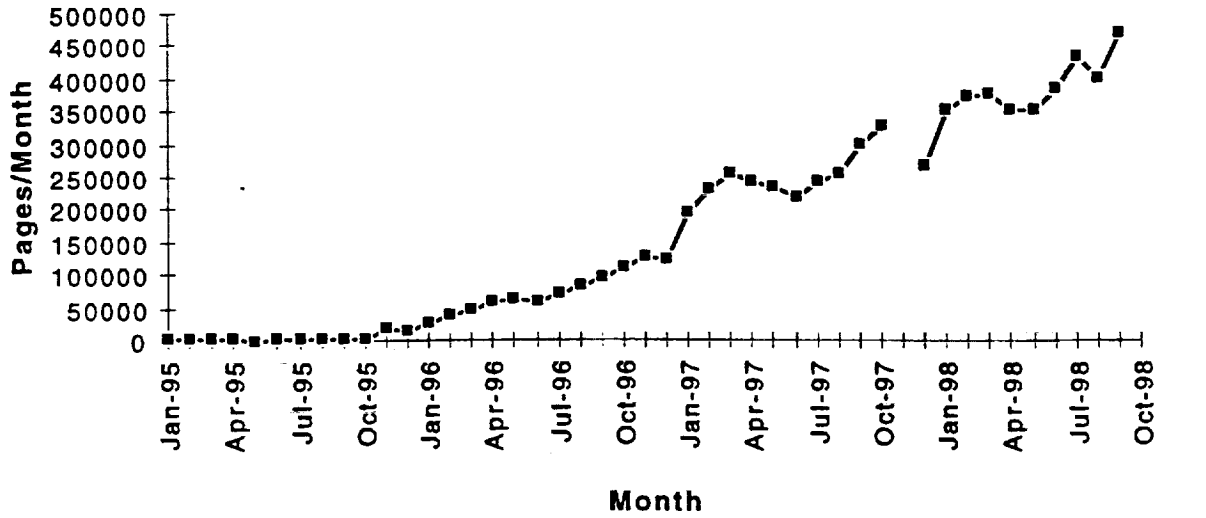
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October, 1998

Distinct Users, Abstract Service



Article Pages Retrieved



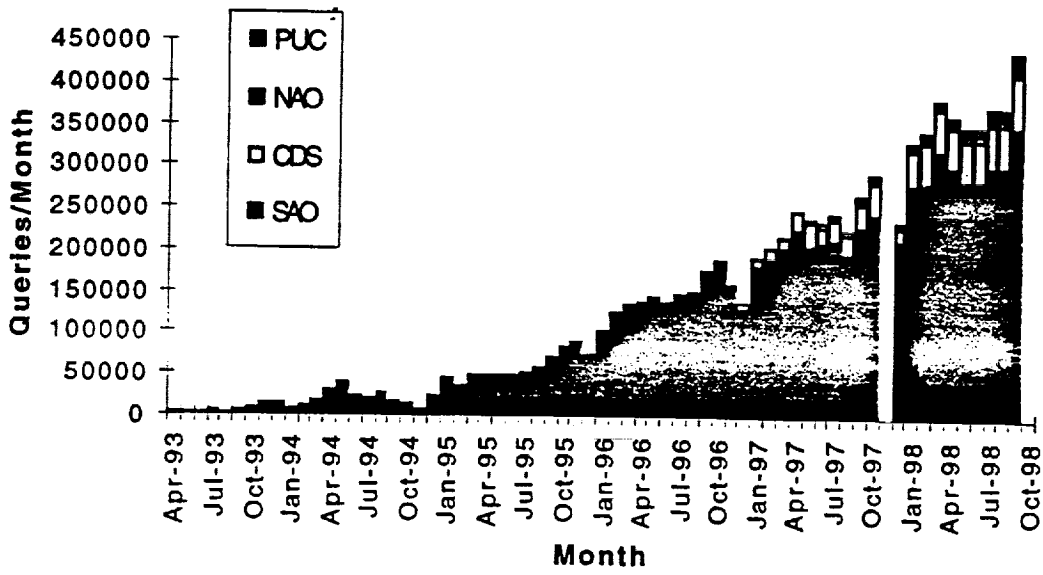
SAO

ASTROPHYSICS DATA SYSTEM

Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October, 1998

Number of Abstract Queries



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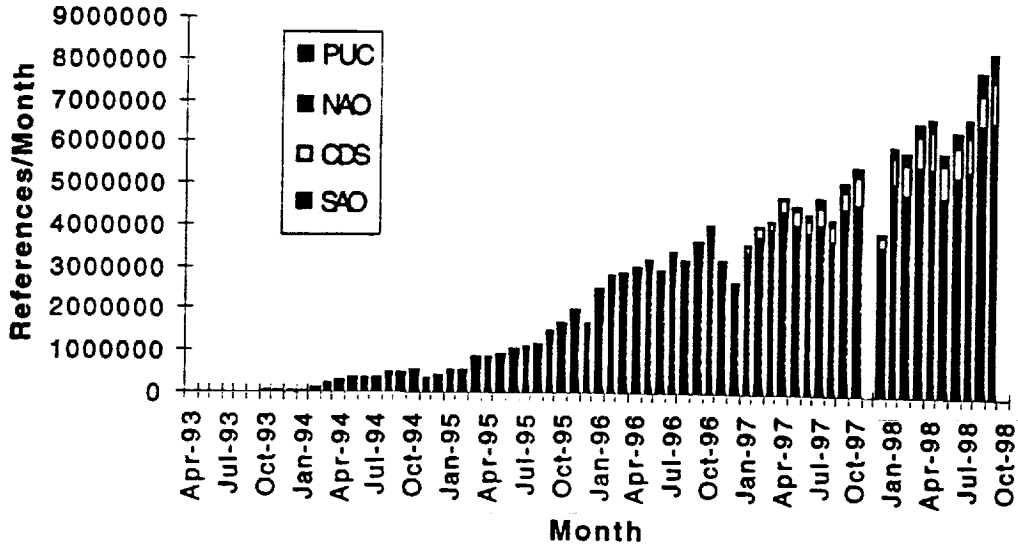
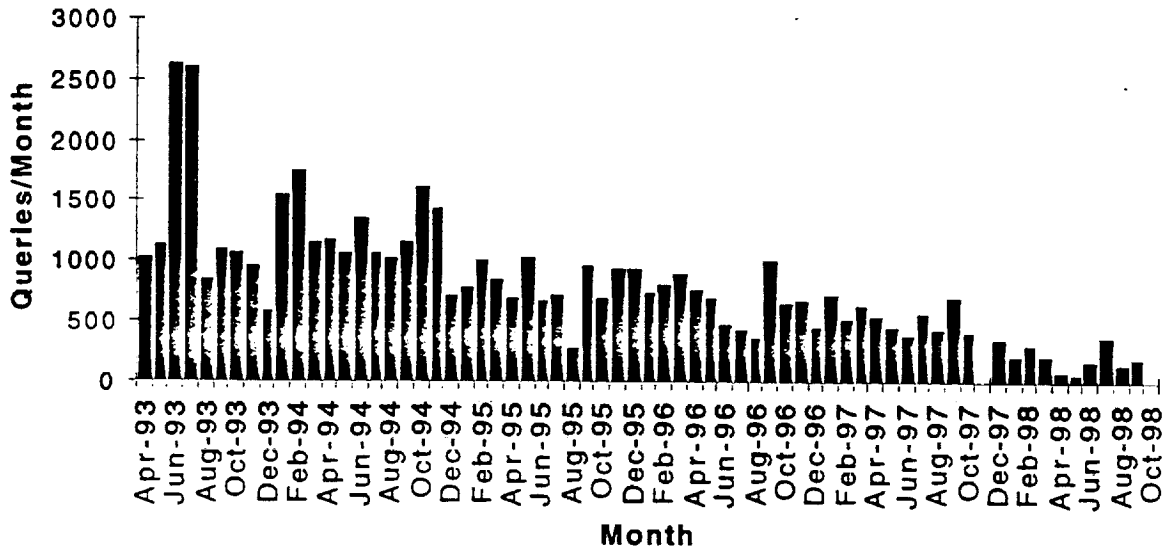


SAO **ASTROPHYSICS DATA SYSTEM**

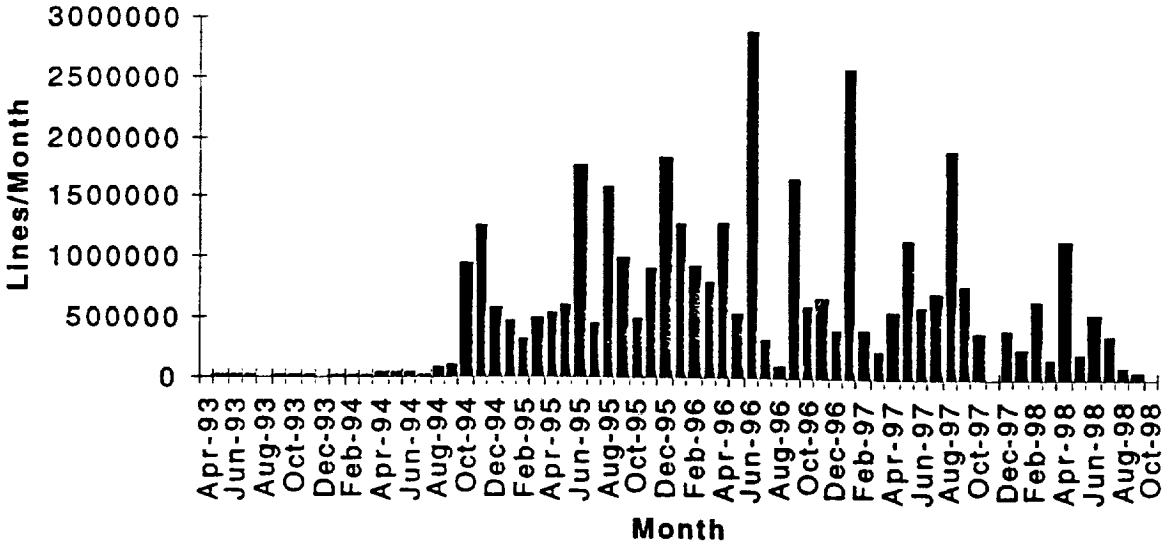
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October, 1998

Number of SQL Server Queries



Number of Retrieved Catalog Lines



SAO ASTROPHYSICS DATA SYSTEM

Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 July 1998

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Continued regular updates of abstracts in the database, both at SAO and at the mirror sites at CDS and NAO.
- Designed strategy to be used for unformatted reference resolving and commenced implementation of new ADS CGI script and client library to be used for this purpose.
- Added abstracts and keywords for AJ and PASP from SGML headers provided by University of Chicago Press.
- Added A&A references back to Volume 1.
- Added abstracts from a new journal, WGN, Journal of the International Meteor Organization.
- Continued to add new conference proceedings supplied by conference proceeding editors.
- Added thousands of additional bibliographic codes for conferences which are part of a conference series (e.g., ASPC, AIPC, IAUCo).
- Organized library help from librarians outside of CfA.

Article Service:

- Met with SAO and Harvard preservation librarians to discuss the aspects of microfilm digitization for historical journals and books; designed specification for annotating structural and logical composition of material to be microfilmed.
- Modified article format translators to take into account output media size when creating an output file for printing or viewing.
- Investigated new methods for extracting textual information from article scans using current OCR technology.

Miscellaneous:

- Responded to user comments about the Abstract and Article Services.
- Provided user support to users in the US and abroad.
- Continued work on ADS papers to be submitted to PASP.
- Supervised work of summer student, OCR'ing ASPC table of contents, matching plates to articles for ApJ, AJ, and ApJL, and incorporating library contributions into the Astronomy database.
- Created handout for AAS meeting in San Diego.
- Began handling logistics for DPS meeting in Madison in October.

7 JULY 1998

SUMMARY

We setup a mirror site of the ADS in Chile at the Pontificia Universidad Catolica de Chile. This is the third ADS mirror site (after the CDS, France and NAO, Japan).

We continued to scan several smaller journals. The scanning company is scanning about 5,000 pages per week.

We included several conference proceedings in the ADS. We are getting some help from several libraries. Some are preparing tables of contents in electronic form, others are copying tables of contents from conference proceedings and sending us the copies.

Our summer student is working on identifying plates in scanned AJs so they can be assigned to their articles.

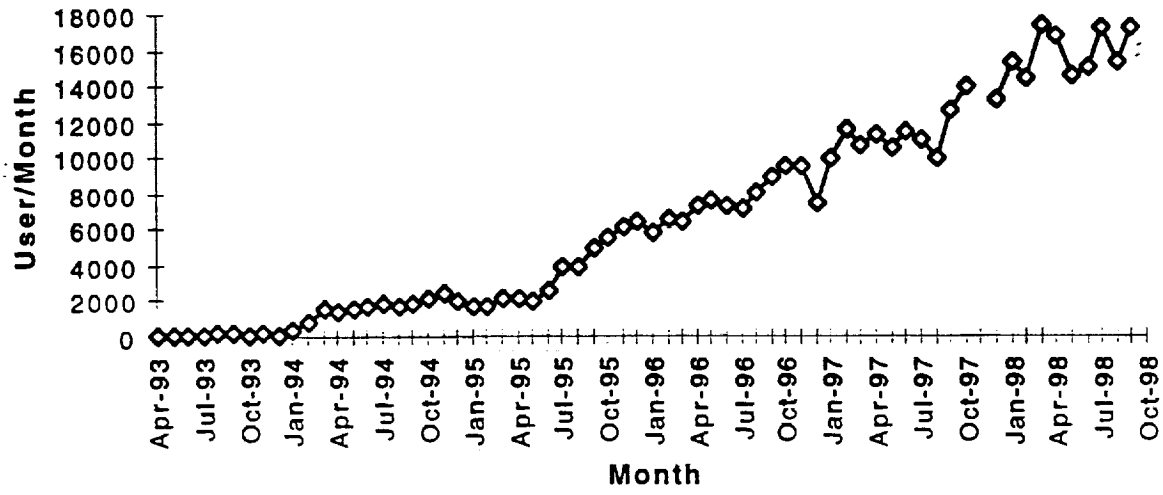
We started a complete re-write of our search and indexing software. This will take a couple of months to complete.

We are preparing to get another set of references from ISI. The reference/citation database has proven to be very popular with our users.

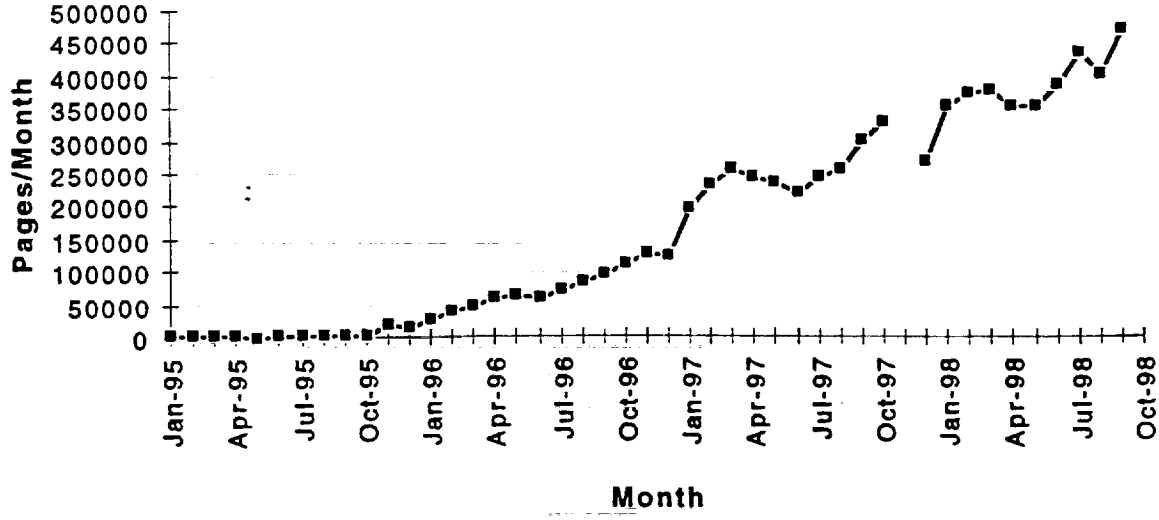
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October, 1998

Distinct Users, Abstract Service



Article Pages Retrieved

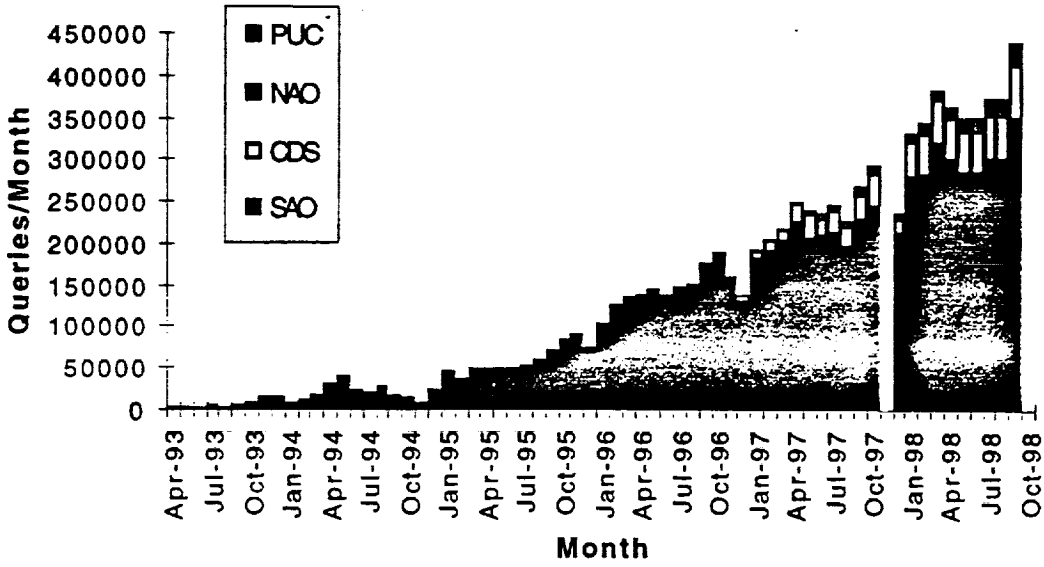


SAO ASTROPHYSICS DATA SYSTEM

Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October, 1998

Number of Abstract Queries



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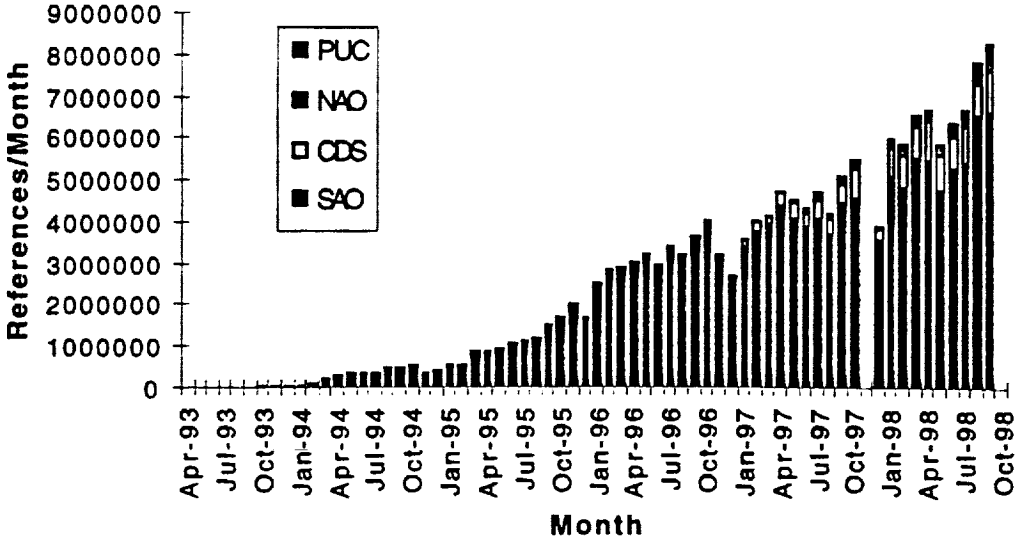
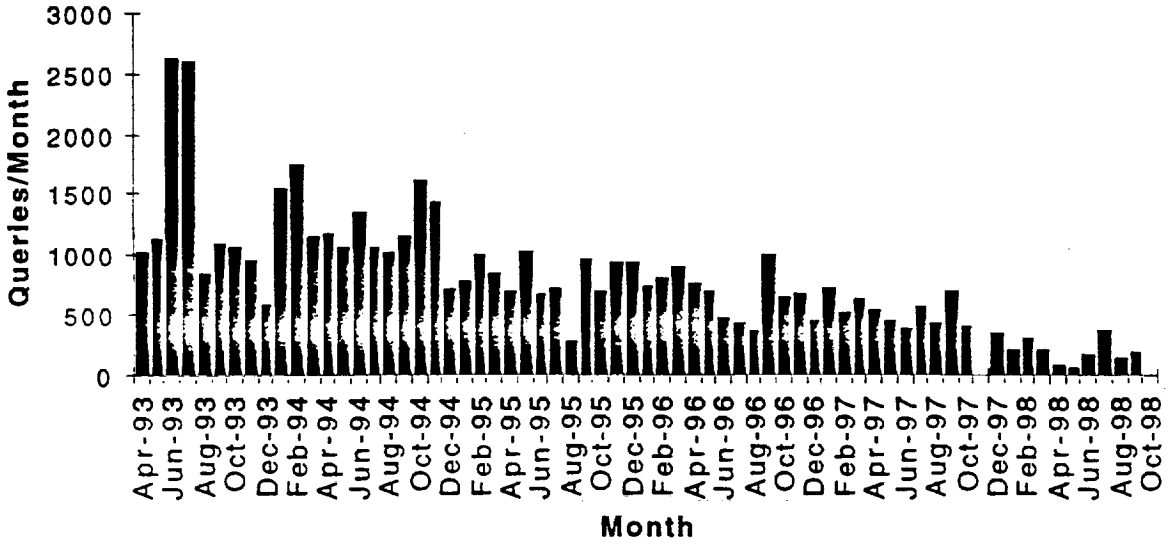


SAO ASTROPHYSICS DATA SYSTEM

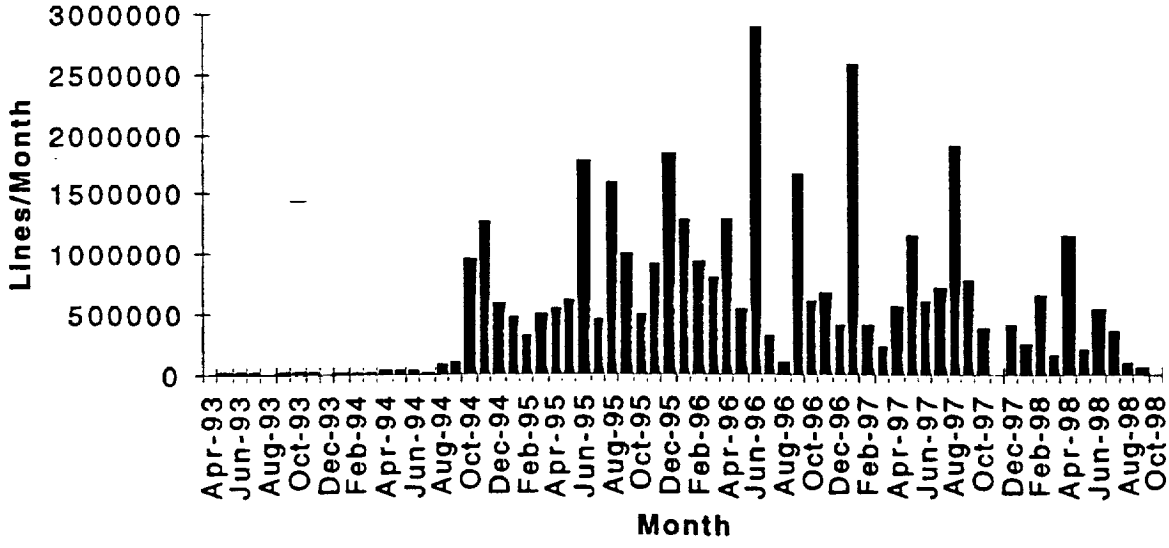
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October, 1998

Number of SQL Server Queries



Number of Retrieved Catalog Lines



SAO **ASTROPHYSICS DATA SYSTEM**

Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 August 1998

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Continued regular updates of abstracts in the database, both at SAO and at the mirror sites at CDS and NAO.
- Wrote automated procedure to retrieve and format electronic TOCs from a selected number of publishers' sites.
- Upgraded mirroring software by implementing partial-file transfers and improving error recovery.
- Finalized canonical list of journal abbreviations to be used by reference parsing program.
- Finished creating complete entries for JBAA and placed scans online through Article Service.
- Added new abstracts from Astronomer's Telegram.
- Began work on rewrite of the Abstract Service text files, loading and indexing software.

Article Service:

- Completed collection of ApJ Supplements and prepared material for scanners.

Miscellaneous:

- Responded to user comments about the Abstract and Article Services.
- Provided user support to users in the US and abroad.
- Continued work on ADS papers to be submitted to PASP.
- Supervised work of summer student, OCR'ing ASPC table of contents, matching plates to articles for ApJ, AJ, and ApJL, and incorporating library contributions into the Astronomy database.
- Ordered new hardware to increase storage capabilities of the ADS article and abstract servers.
- Gave a talk about the technical aspects of the ADS services to the Harvard Librarians.

8 AUGUST 1998

SUMMARY

The ADS mirror site in Chile is now fully operational.

We prepared for a demonstration at the DPS meeting in Madison in early October.

We are working with the conservation project at Harvard. They are microfilming the historical Observatory literature. We will get one of the microfilms and will scan that to produce electronic images. This will allow us to get access to a part of the astronomical literature that is otherwise impossible for us to scan since we cannot find issues of these publications that we can destroy for scanning.

We started to look into alternatives to our current image formats that would provide higher compression factors. Higher compression ratios could potentially greatly increase transfer speeds and make it feasible for our users to download articles from home over slower links.

We are developing a program system that will allow journals to parse their reference lists and get codes for each reference in the list that allows the journal to link to our abstracts. This will make it much easier for journals to include such links. It will also allow us to improve our reference/citation database.

The re-write of our search and indexing software is progressing. We will use XML, the new emerging standard for tagging web based information. We will also implement the use of Unicode characters to be able to handle special characters and other alphabets.

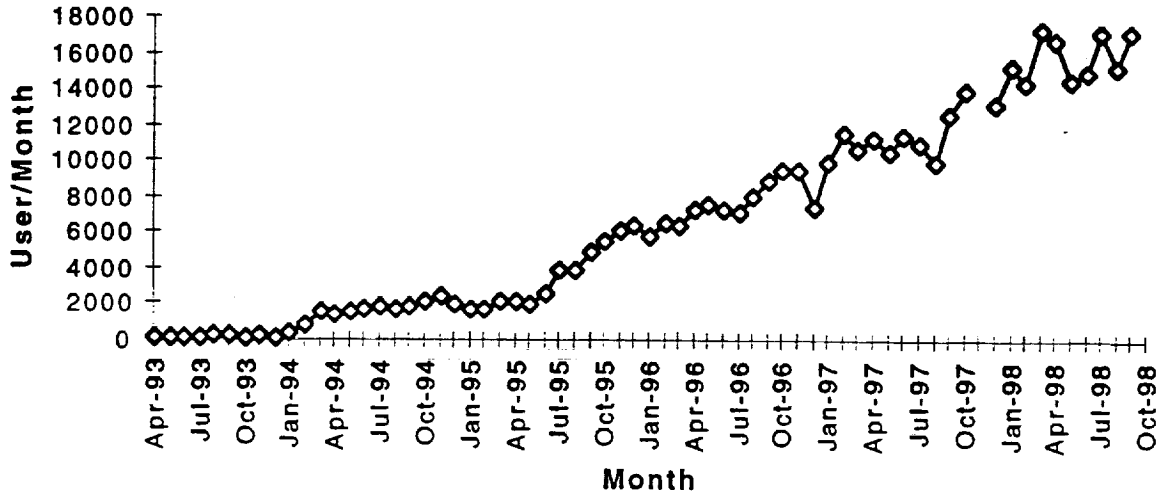
SAO

ASTROPHYSICS DATA SYSTEM

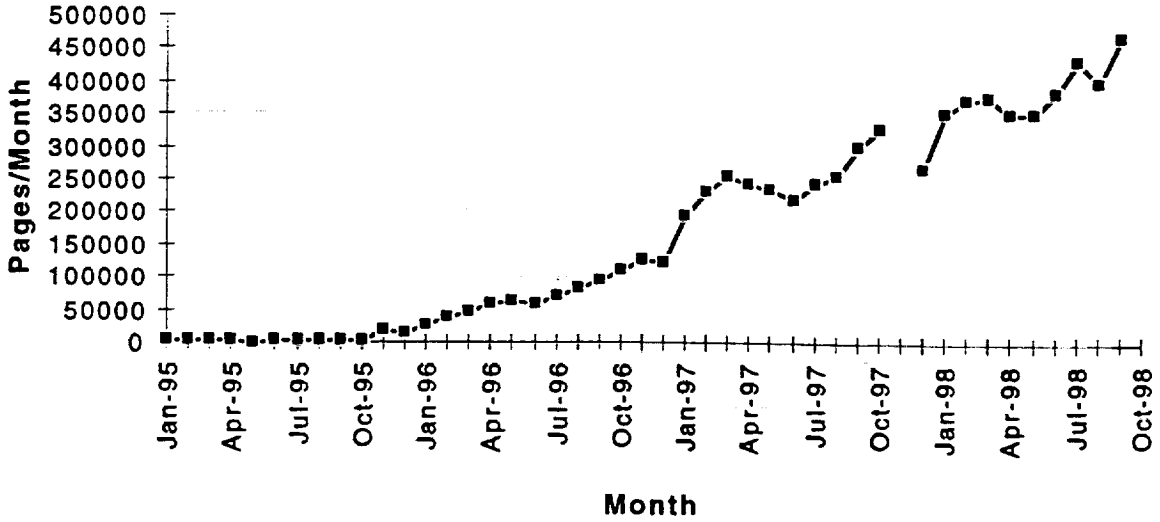
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October, 1998

Distinct Users, Abstract Service



Article Pages Retrieved



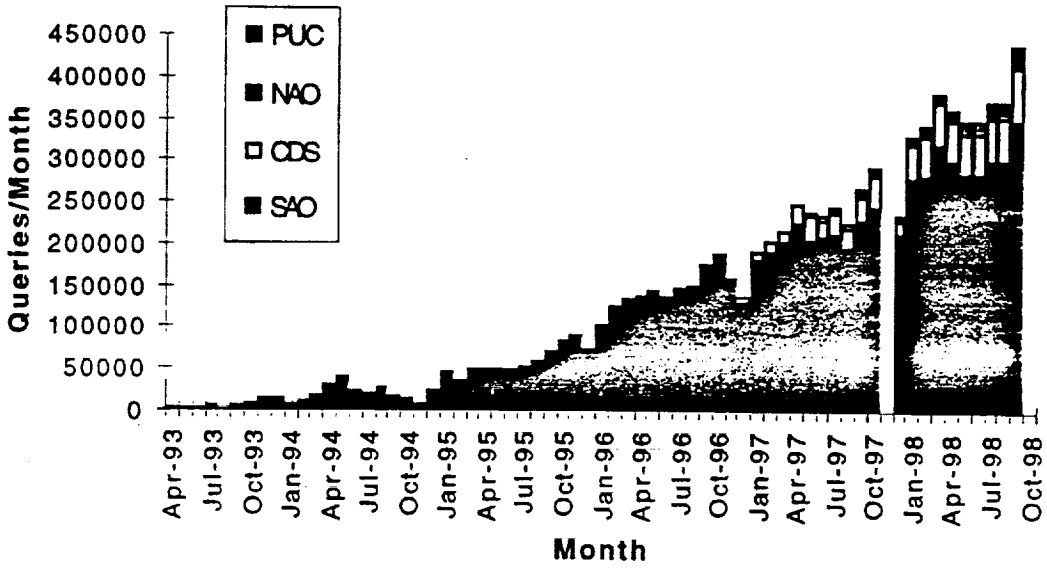
SAO

ASTROPHYSICS DATA SYSTEM

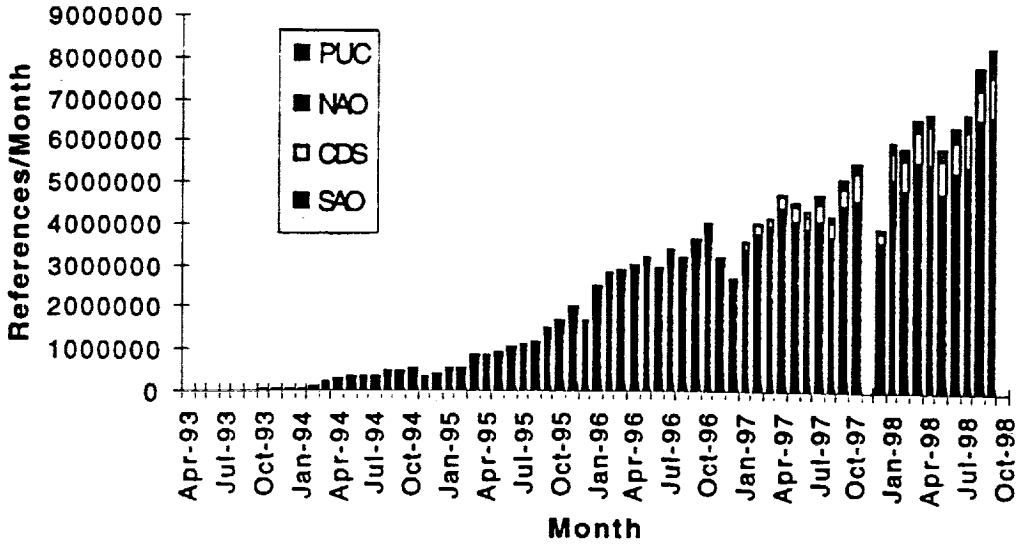
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October, 1998

Number of Abstract Queries



Number of Retrieved References

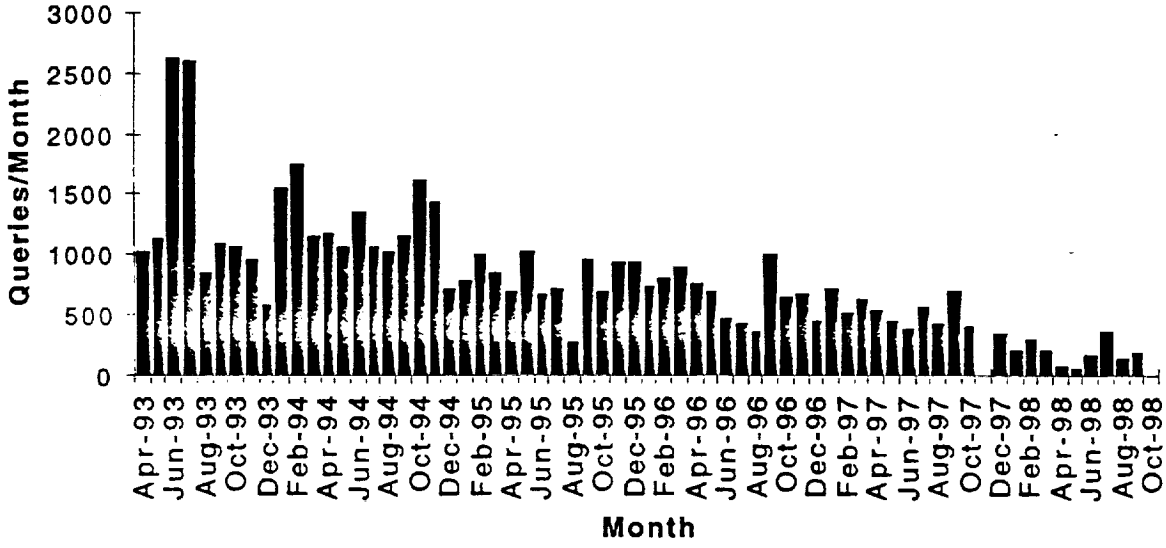


SAO ASTROPHYSICS DATA SYSTEM

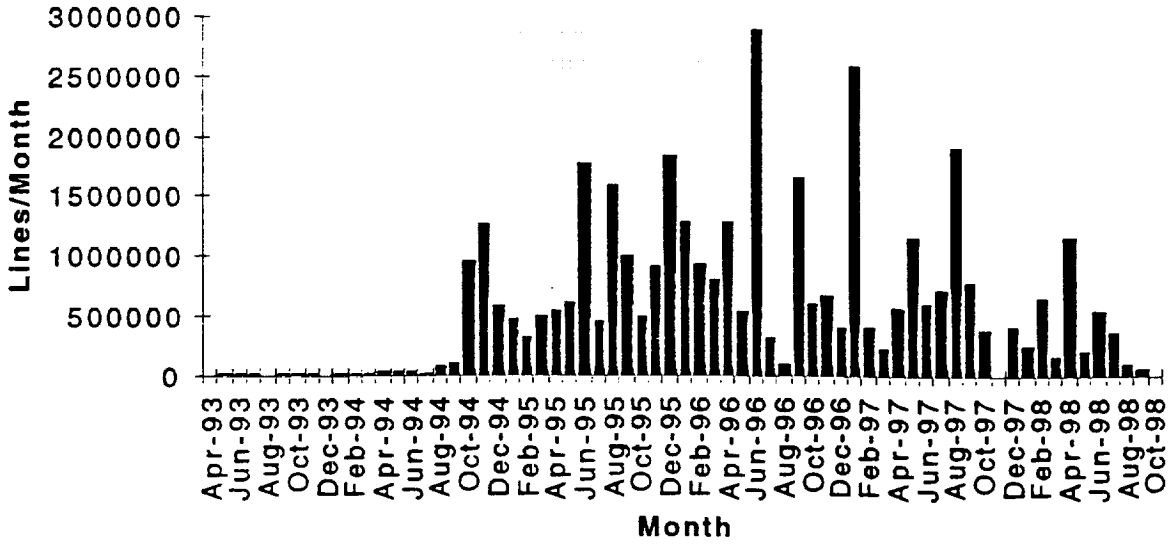
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October, 1998

Number of SQL Server Queries



Number of Retrieved Catalog Lines



Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 September 1998

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Continued regular updates of abstracts in the database, both at SAO and at the mirror sites at CDS and NAO.
- Continued work on rewrite of the Abstract Service text files, loading and indexing software.
- Proposed changes in new abstract file formatting and handling to use XML and Unicode standard.
- Worked out details of new structure of index files and implemented changes in indexing procedure to allow for these changes.
- Finished adding all references from first 34 volumes of ASP Conference Proceedings.
- Wrote routines to mix case on authors and titles, incorporating special cases for author names with mixed case (e.g., MacKnight) and acronyms for title words.
- Worked with Priscilla Boon and Donna Thompson on formatting issues for new conference proceedings to be added to ADS.
- Analyzed keywords provided to use by U. Chicago Press vs. those typed in by Nigel Atkins in order to ensure common keywording systems for the UCP journals.

Article Service:

- Assisted in the OS upgrade of the ADS article server, tailored new system to work efficiently and reliably.

Miscellaneous:

- Responded to user comments about the Abstract and Article Services.
- Provided user support to users in the US and abroad.
- Continued work on ADS papers to be submitted to PASP.
- Supervised work of summer student, OCR'ing ASPC table of contents, matching plates to articles for ApJ, AJ, and ApJL, and incorporating library contributions into the Astronomy database.
- Installed public domain software libraries and tools to be used in handling new format for abstract files.
- Setup new ADS mirror site in Chile, transferred data to it.
- Continued handling logistics for DPS meeting in Madison in October.

9 SEPTEMBER 1998

SUMMARY

We finished preparations for our demonstration at the DPS meeting.

We upgraded our server and added more disks. We configured our disks as a RAID system to improve reliability and fault tolerance.

The CDS is purchasing disks to provide a partial mirror of our article scans. This partial mirror will be setup to contain the most frequently used article scans in order to improve access from Europe.

The Harvard conservation project started to microfilm historical literature. We should get the first films within a month or two.

The re-write of our software system is continuing. Implementing the use of XML and Unicode characters is taking longer than expected.

We received the complete tables of contents, in electronic form, of the AJ from the librarians at Princeton. This will allow us to include the scans for the complete AJ as they are being scanned. We will have the complete AJ online for the 150th year anniversary of the journal.

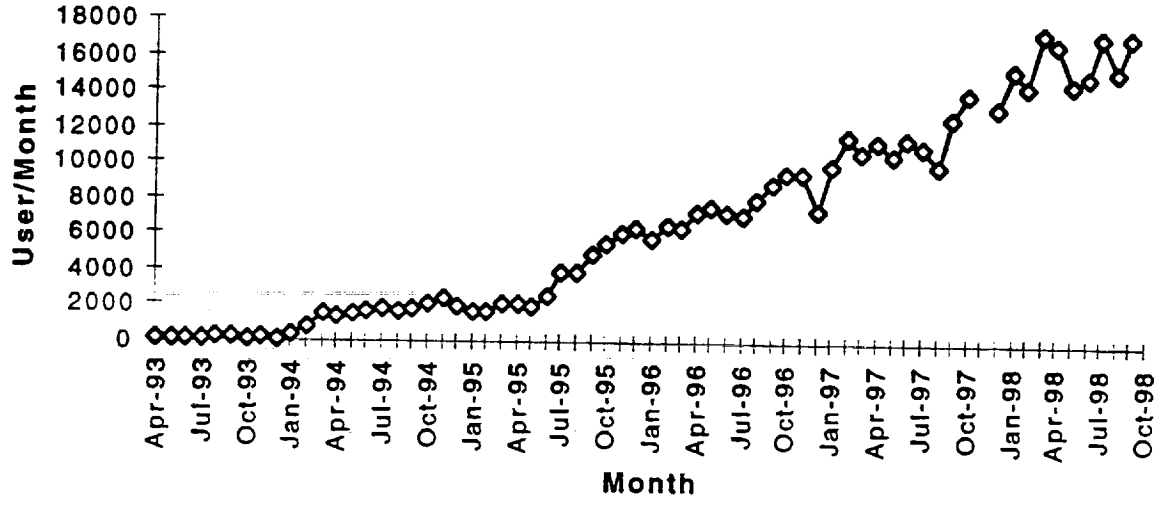
SAO

ASTROPHYSICS DATA SYSTEM

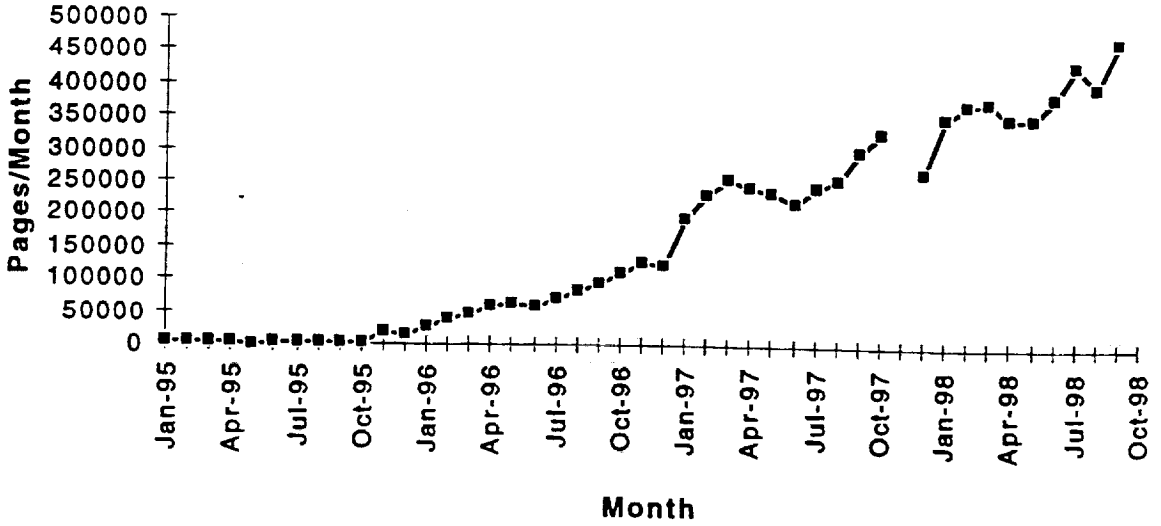
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October, 1998

Distinct Users, Abstract Service



Article Pages Retrieved



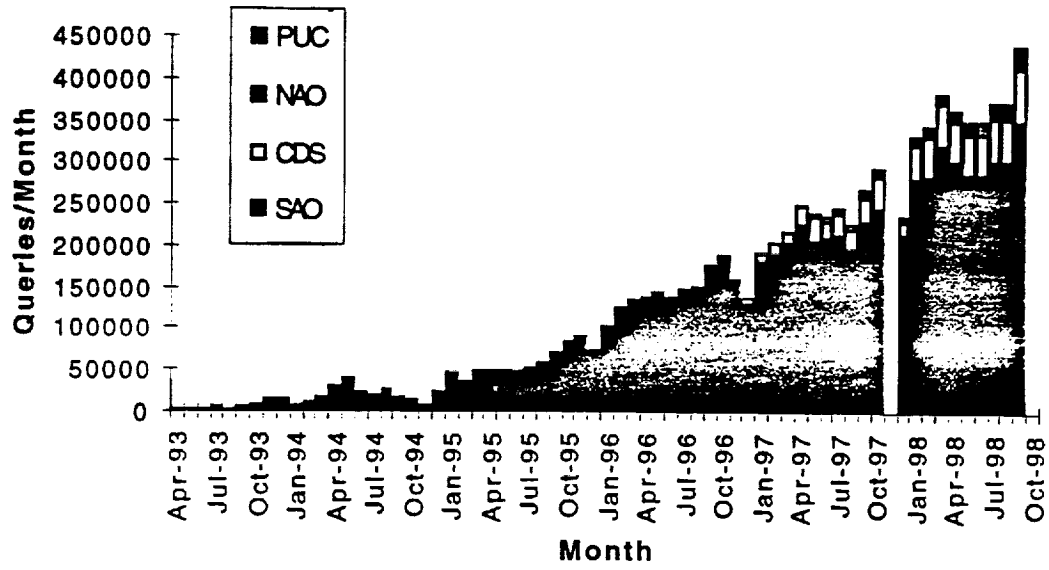
SAO

ASTROPHYSICS DATA SYSTEM

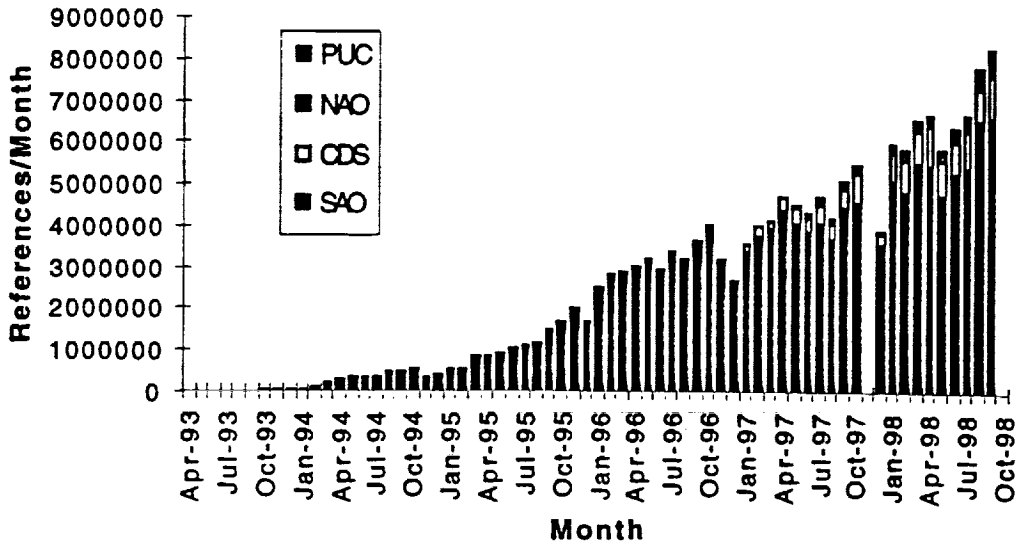
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October, 1998

Number of Abstract Queries



Number of Retrieved References

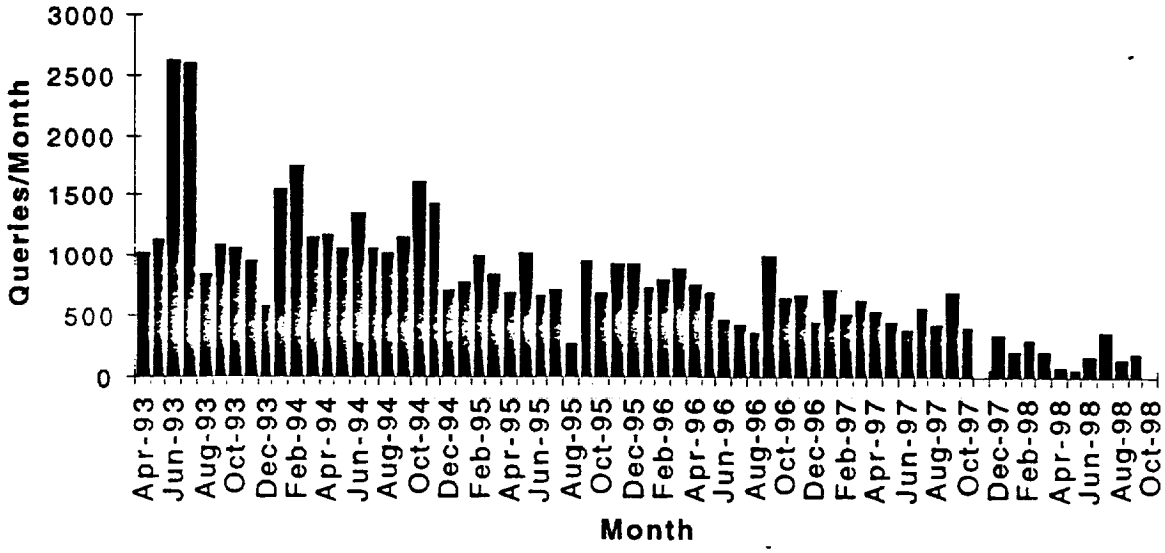


SAO ASTROPHYSICS DATA SYSTEM

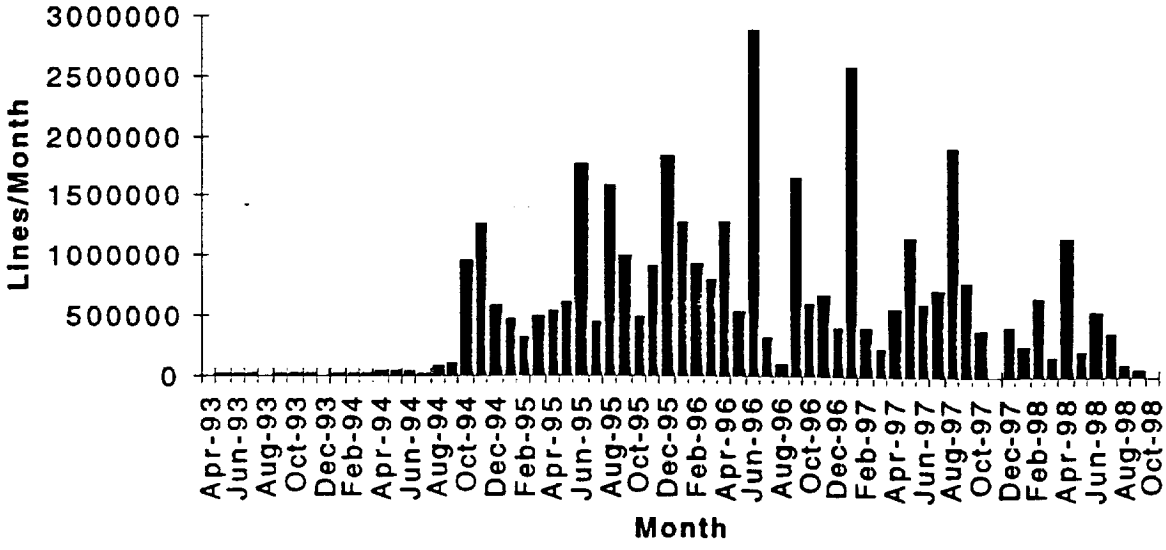
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October, 1998

Number of SQL Server Queries



Number of Retrieved Catalog Lines



Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October 1998

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Continued regular updates of abstracts in the database, both at SAO and at the mirror sites at CDS, NAO and PUC.
- Made operational and announced new mirror site in Chile.
- Continued work on rewrite of the Abstract Service text files, loading, and indexing software.
- Began mapping of Unicode, SGML, ascii, and latex equivalents.
- Started implementation of libraries to perform parsing and formatting of abstract files in XML format.
- Resolved synchronization problems with SIMBAD mirror site, updated procedures to allow access via IP address or domain name.
- Updated script performing spell-check of words in abstracts.
- Wrote scripts to handle new data from USNO, Nature, and Kluwer Academic Publishers.
- Fixed inconsistent handling of apostrophes between indexing and searching software causing inaccurate search results.
- Solicited user input on new compression options for users on slow links.

Article Service:

- Wrote generic procedures to create online scans of papers by rasterizing postscript or PDF files when available.
- Processed and placed online the following full text journals: JBAA, Acta Astronomica, and ApJ Supplements.
- Researched issues of image compression, tested two competing standards for compression of bitonal images.

Miscellaneous:

- Responded to user comments about the Abstract and Article Services.
- Provided user support to users in the US and abroad.
- Continued work on ADS papers to be submitted to PASP.
- Continued handling logistics for DPS meeting in Madison in October.
- Compiled a list of IP addresses for free access to SIMBAD.

10 OCTOBER 1998

SUMMARY

We represented the ADS at the DPS meeting in Madison, WI with a demonstration and a poster paper. There are now more scientists that know about the ADS than a couple of years ago.

We received a significant number of references in electronic form from the librarian of the Naval Observatory.

The disks for the article mirror in France are being installed. We will transfer article scans to this mirror during the last half of October and the beginning of November. The mirror should be operational by the end of November.

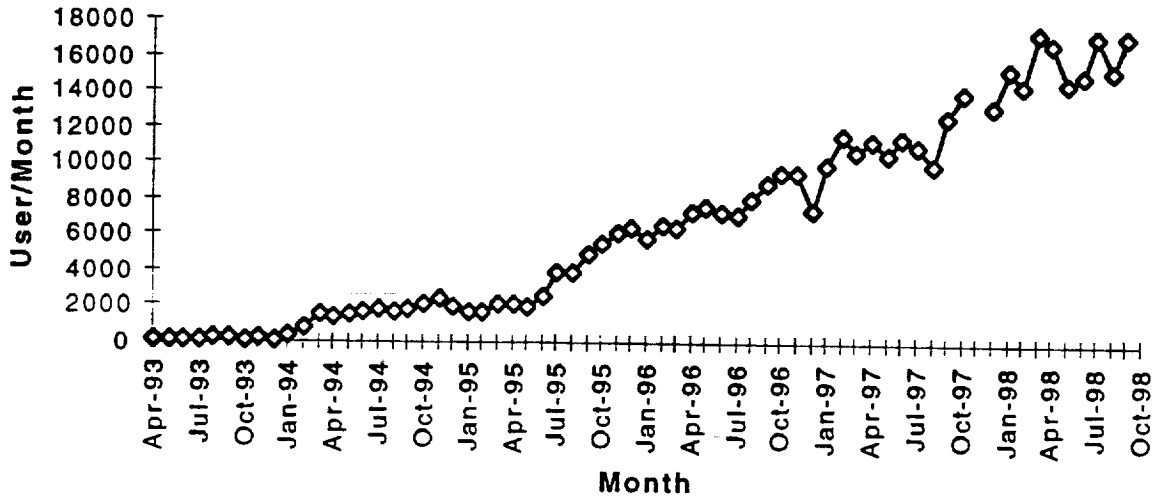
SAO

ASTROPHYSICS DATA SYSTEM

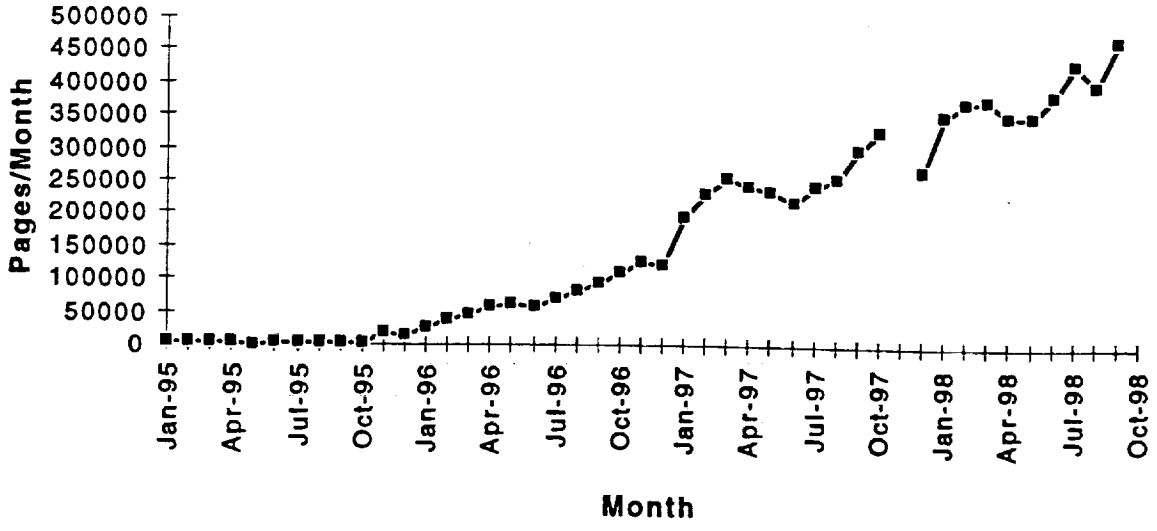
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October, 1998

Distinct Users, Abstract Service



Article Pages Retrieved

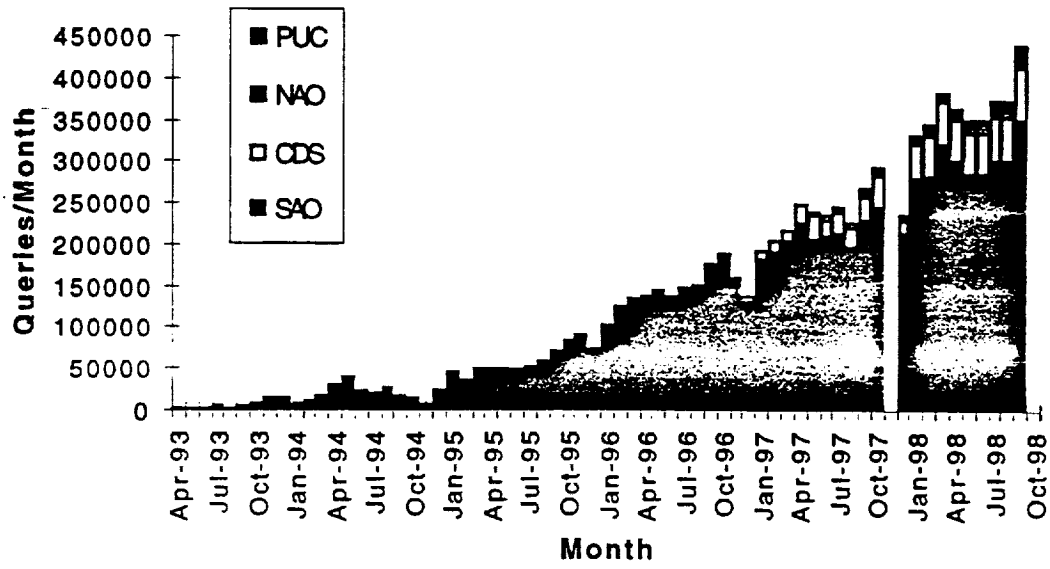


SAO ASTROPHYSICS DATA SYSTEM

Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October, 1998

Number of Abstract Queries



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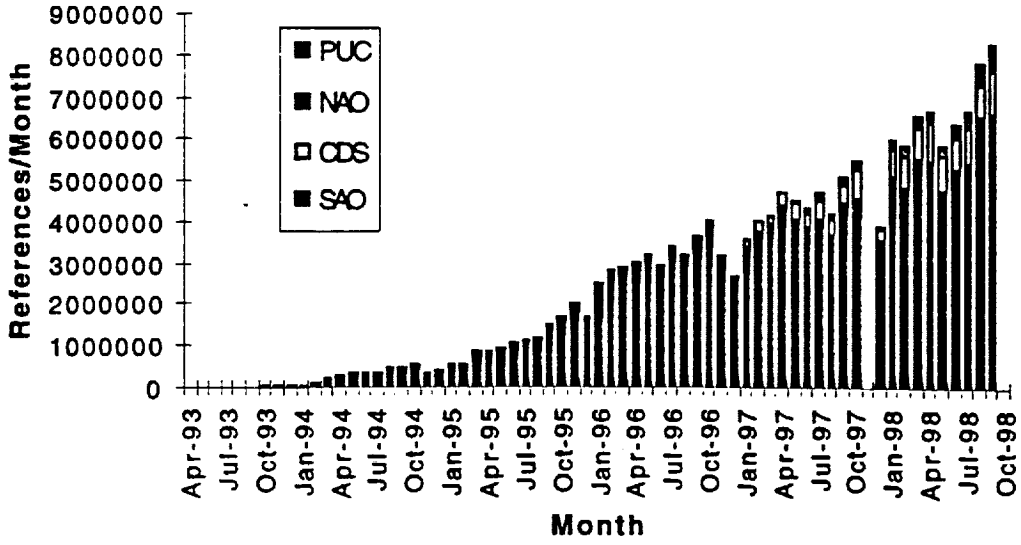
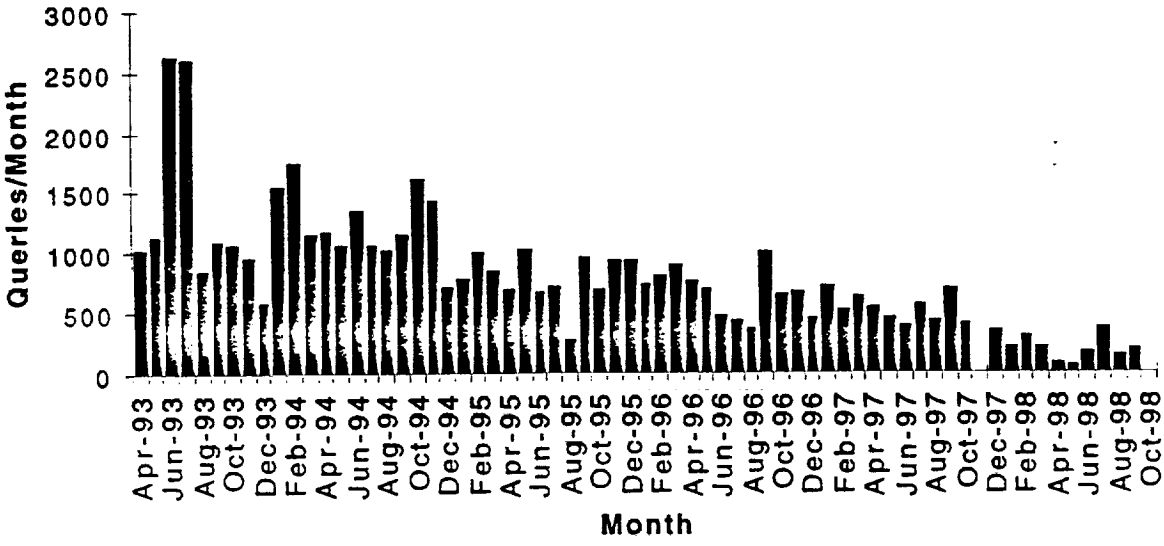


SAO **ASTROPHYSICS DATA SYSTEM**

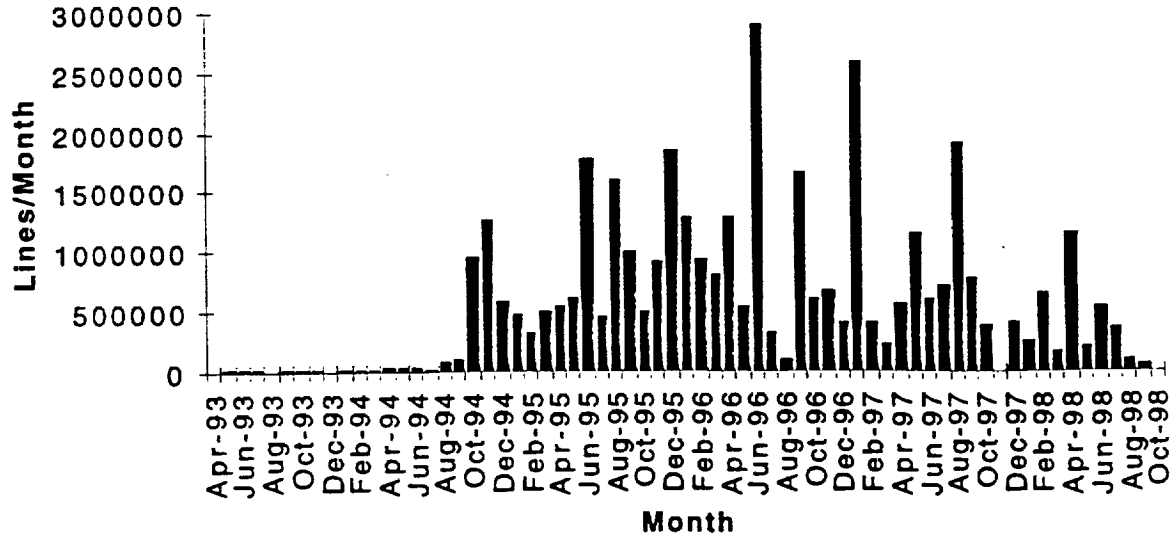
Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 October, 1998

Number of SQL Server Queries



Number of Retrieved Catalog Lines



SAO ASTROPHYSICS DATA SYSTEM

Approved:_____S. Murray
Achievement:_____G. Eichhorn (SAO)

Status as of: 1 November 1998

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Continued regular updates of abstracts in the database, both at SAO and at the mirror sites at CDS, NAO and PUC.
- Continued work on rewrite of the Abstract Service text files, loading, and indexing software.
- Continued mapping of Unicode, SGML, ascii, and latex equivalents.
- Wrote software to parse and re-format references in portable tagged format and enhanced support for author name parsing in library routines.
- Wrote software to perform conversion from old abstract format to new abstract format, with fields cross-referencing when appropriate.
- Wrote scripts to handle new data from AIP (27,000 references) and IOP (26,000 references).
- Prepared list of last 5 years of ASPC, IAUS, and IAUCo for OCR'ing and including in ADS.
- Set up monitoring scripts on mirror site to alert us of over use.
- Incorporated reference list from CfA scientists, and loaded any missing references into ADS.

Article Service:

- Wrote software to move scanned plates in the ADS article service with the article that cites them and moved plates for all major journals.
- Prepared tables and instructions for additional journals to be scanned by our contractor, and contacted additional scanning companies to try and find alternative scanning suppliers.

Miscellaneous:

- Responded to user comments about the Abstract and Article Services.
- Provided user support to users in the US and abroad.
- Continued work on ADS papers to be submitted to PASP.
- Attended the DPS meeting in Madison to distribute information about ADS and give demonstrations.
- Prepared paper for ADASS meeting.
- Wrote exhibit descriptions for ADS and SIMBAD for January AAS meeting in Austin.